

The impact of stabilization and structural adjustment policies on the rural sector

**Case-studies of Côte d'Ivoire, Senegal
Liberia, Zambia and Morocco**

**FAO
ECONOMIC
AND SOCIAL
DEVELOPMENT
PAPER**

90



**FOOD
AND
AGRICULTURE
ORGANIZATION
OF THE
UNITED NATIONS**

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Case-studies of Côte d'Ivoire, Senegal,
Liberia, Zambia and Morocco

by
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and
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Report prepared for the
Joint ECA/FAO Agriculture Division

This One



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Rome, 1991

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M-60
ISBN 92-5-102894-X

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Foreword

The issue of stabilization, structural adjustment or economic adjustment is profoundly controversial. The debate employs differing definitions of the issue and slides across levels of analysis — from the household, to the national, to the international economy. It also cuts across viewpoints, regions and time periods.

There is a large policy overlap between structural adjustment and the rural sector. Changes in output prices, wage rates, subsidies or taxes, and tariffs or institutional arrangements will all affect the production, marketing and consumption of agricultural products, especially food, and consequently the living conditions of the rural population.

In general, the impact of structural adjustment on the rural sector will be mediated through the impact on growth and income distribution, the level and stability of food production, food exports and imports, and producer and consumer prices. A typical structural adjustment package might contain some or all of the following measures directly affecting various sectors of the rural economy:

Production. A shift in relative pricing in favour of export crops; higher charges for inputs and service to balance the budget; an increase in interest rates for credit to regulate the money supply.

Marketing. A reduction in the role of the public sector; small buffer stocks; a liberalization of imports and exports to even out the balance of payments and bring the

exchange rate into line with market requirements.

Consumption. A reduction in general consumer subsidies through an increase in food prices; better defined targeting of food and nutrition interventions; cuts in health and education expenditures to (obtain realistic) moderate costs and balance the budget.

An appropriate adjustment for the social and structural transformation of African economies is essential and should benefit the rural sector. However, an inappropriate adjustment programme, without transformation of socio-economic and structural changes will negatively affect the rural sector, principally because this last is the slowest to adapt. The subsectors affected usually include rural infrastructures, (including health and education), research and other production interventions and inputs.

The present study has demonstrated that the nett cost of inaction in the above areas may exceed the nett cost of action. The study focuses on the impact of stabilization and/or adjustment policies on the rural sector in terms not only of "whether" but also of "what" and "how much" and "where" and "how". To answer these questions, one needs to touch on a large number of broader economic development debates such as technical range, rural transformation, basic infrastructure and intersectoral relations.

At the risk of being considered theoretical and reductionist, the study has chosen to abstract from the wider debates and focus on the particular, of relevance to "structural adjustment and the rural sector". This seems to be a more systematic approach than that of trying to juxtapose competing theories which often address different issues at different levels of analysis.

To comprehend quite how the effects of stabilization

and/or structural adjustment came about, an appropriate framework (theoretical and practical) is needed for analysis at country level. Such a framework may be utilized in various ways, depending on the specificities of the individual country. Consequently, at the end of the study, the authors turn explicitly to the question of “adding up” and to an overall framework for understanding the impact of structural adjustment on the rural sector in Africa. Thus this study and its application to five African countries opens the door and contributes to lessening the gap.

In the future, a new generation of stabilization and/or structural adjustment measures, with transformation, is likely to produce a significant, highly welcome evolution in the relations between rural and urban citizens. More work is needed on the implication of these changes for individual countries.

S.C. Nana-Sinkam

Director

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Abbreviations

ADB

African Development Bank

APL

Average product of labour

BCEAO

Banque Centrale des Etats de
l'Afrique de l'Ouest

BEAC

Banque Centrale des Etats de
l'Afrique Centrale

BSD

Banque Sénégalaise de
Développement

CFA

Currency of UMOA (Cooperation
Financière en Afrique)

CILSS

Comité Permanent Inter-Etats de
Lutte contre la Sécheresse dans le
Sahel

CPSP

Caisse de Péréquation et de
Stabilisation des Prix

CRAD

Centre Régional d'Assistance au
Développement

CSSPPA

Caisse de Stabilisation et du soutien
des productions agricoles, Côte
d'Ivoire

ECA

Economic Commission for Africa

EEC

European Economic Community

FAS

Differential amount of foreign aid per
caput

IMF

International Monetary Fund

LINTCO

Lint Company of Zambia

LPA	SATEC
Limited power of attorney (Liberia)	Société d'Aide Technique et de Coopération
MPL	SATMACI
Marginal product of labour	Société d'Assistance Technique pour la Modernisation Agricole de la Côte d'Ivoire
NAMBOARD	SDR
National Agricultural Marketing Board, Zambia	Selective Drawing Rights (IMF)
OAU	SEIB
Organization of African Unity	Société Electrique et Industrielle du Baol
OCA	SIES
Office de Commercialisation Agricole	Société Industrielle des Engrais Sénégalaise
OCL	SIP
Opportunity cost of labour	Société Indigène de Prévoyance
ONCAD	SODEA
Office National de coopération et d'Assistance pour le Développement	Société pour le Développement Agricole
SAED	SODEFITEX
Société d'Aménagement et d'Exploitation des Terres de Delta et de la Vallée du Sénégal et de la Falemes	Société de Développement des Fibres Textiles
SAL	SODEPALM
Structural Adjustment Loan	Société pour le Développement de l'Exploitation du Palmier à l'Huile

SODEVA

Société de Développement et de
Vulgarisation Agricole

SOGETA

Société pour la Gestion des Terres
Agricoles

SOMIVAC

Société pour la Mise en Valeur de la
Casamance

SONAR

Société Nationale
d'Approvisionnement du Monde Rural

SONOCOS

Société Nationale de
Commercialisation des Oléagineux du
Sénégal

STABEX

Stabilisation of export revenues, part
of the Lomé Agreement

UMOA

Union Monétaire Ouest Africaine
(West African Monetary Union)

ZAMHORT

Zambia Horticultural Products Board

ZAMSEED

Zambia Seed Company Ltd

Introduction

The poor overall performance of African agriculture in the past two decades is a cause of increasing concern. As a large proportion of Africans still work in the agricultural sector, this situation is of particular importance, and it is urgent to try to ascertain the reasons behind its causes. Some concern has been expressed recently about the possible detrimental effects on agriculture of stabilization and structural adjustment programmes launched with the support of the International Monetary Fund (IMF) and the World Bank. Our aim in this report has been mainly concerned with evaluating the real impact of these programmes. What effects have they had on agriculture? Can some of the assumed adverse effects of these programmes be eliminated or lessened? These are just two of the questions which this report tries to answer.

Toward the end of the 1970s, the policy instruments of the IMF and the World Bank changed considerably. As far as the IMF was concerned, its priority was the reduction of external imbalances by appropriate macro-economic policies. In the late 1970s, the IMF added the extended fund facility to its traditional stand-by arrangements which were mostly single-year commitments. The new facility was made available in the form of three-year commitments and was repayable over a period of eight years. Both the one-year stand-by and the extended facility were non-concessional and highly conditional. The extended fund facility focused on medium-term adjustment and supply-side management, in addition to demand management.

Project lending was the principal activity of the World Bank. At the end of the 1970s, the Bank introduced its new (non-project) Structural adjustment loans (SALs), which involved a completely new activity and expertise in the field of macro- and sectoral economic policy advice. The objective of these long-term non-project loans was to foster policy reforms in terms

of structural adjustments, which would achieve lasting improvement in the balance of payments, while avoiding excessive cost in terms of lower growth and equity. They were conceived generally in a five-year perspective and included specific "pass-or-fail" steps for the implementation and continuation of the loans.

Most loans are granted in two tranches, the second one depending on the government's fulfilment of a series of underlying conditions. Although the funds disbursed by the extended fund facility and the Structural adjustment loans are not large, permission obtained for granting them implies a leverage on other donors to join the IMF's and the Bank's financing efforts.

Inside and outside the developing world in general, there appears to be more criticism levelled at the IMF than at the Bank. The principal reproach is directed against the IMF's priority, which is said to be non-developmental, but oriented primarily toward balance-of-payments considerations, so that long-term development goals would be sacrificed for short-term external constraints. Our report will not enter into this controversy, but our personal belief is that there must be a proper balance between short-term targets, in terms of balance-of-payments, and long-term development targets. In principle, from an institutional point of view, the balance between both targets is assumed by the division of labour between the IMF and the Bank. In practice, disagreement can arise with respect to the appropriate weighting of both institutions within the overall stabilization and structural adjustment programme being "imposed" on a particular country.

Our main concern is less with the study of (short- and long-term) macro-economic performances in some selected African countries, but with the consequences of the implemented policies proposed by the IMF and the Bank. Main attention is drawn to the rural sector. This "structural" view is necessarily a long-term view. Consequently, we are very much concerned with the historical evolution of agriculture within the global economy. Three particular trends are revealed which are common to all countries considered in the present report:

1. The actual pattern of agriculture is a legacy of the colonial period. In general, it evolved prior to the 1930s, and has been maintained since independence without any major changes.

2. By looking at the relative importance of the rural and urban sectors during the last decades, we discover the former was highly neglected to the benefit of the latter, within long-term development plans as well as in day-to-day policy actions. The dismal performance of agriculture fundamentally reflects the "political market" in which urban groups (constituting the industrial and government sector) are the primary participants.
3. Within the rural sector, priority has been given to export-oriented products (as in the colonial period). Cash crops have been favoured and food crops have been largely neglected by the imposition of a particular producer price structure. The increasing dependence on food imports for nearly all African countries has shifted recent agricultural development strategy to the other extreme, of a declared long-term goal of self-sufficiency. The recognized failure of import-substitution policy within the industrial sector is an example not to be repeated in the agricultural sector.

Our second concern relates to the period in the 1980s when austerity and structural adjustment programmes were introduced by the IMF and the World Bank. The common denominator of these policies is the search for budgetary discipline. In principle, all sectors of the economy had to be exposed to more rigorous budgetary constraints. Our contention is that the traditional branch of the agricultural sector (food crops) should benefit from preferential treatment, to the same extent that its development was neglected during the 1960s and 1970s. The relative price structure for food crops is generally such that producer prices are higher than consumer prices, via the use of subsidies, and consumer prices are higher than international prices. In general, government subsidies are much larger than government revenues from (taxed) imported food. Budgetary discipline would imply a cut in agricultural subsidies. The "normal" way to do so would be to raise consumer prices.

However, the "political market" does not allow for such a procedure, since present political regimes could be driven out of power. Consequently, under pressure for austerity from the IMF and the World Bank, governments are tempted to cut agricultural input and output subsidies, since the political

strength of smallholders is negligible. The long-term implications for food crops are evident. Consequently, without the explicit intention of the IMF or the Bank, there is a deep discrepancy between macro-economic and agricultural performance. The danger is that improvement in macro-economic performance is achieved partly at the cost of the latter which concerns an agricultural population that, depending on the country, varies between 60 and 80 percent of the total population.

Thus, from our theoretical work and field research, it appears that stabilization plans and structural adjustment programmes are unavoidable. However, they are too often concerned with global problems, and there is reason to believe that farmers may suffer relatively more than other categories from the implementation of these programmes.

In Africa, farmers are, in general, among the poorest, and any policy which is detrimental to agriculture may influence the standard of living of those who need special care.

From a longer-term perspective, however, we could also hypothesize that the way to development is through industry (and services). This was the case, in the past, for the now developed countries, at the beginning of the Industrial Revolution, for instance. We must also remember that growth occurred in developed countries because distribution was not of prime importance. Thus, there would be a trade-off between growth and distribution, and if we want to accelerate growth for the future well-being of all citizens, large resources ought to be extracted from agriculture to finance other sectors. In other words, we may wonder why, in spite of major transfers from agriculture, there has not been a change in the economic structure of African countries to promote an overall economic growth, depending, more and more, on the industrial and service sectors. From this point of view, the example of Southeast Asian countries is important, as some decades ago, agriculture was the main sector. However, the high growth rates of these countries derived less from the growth of the agricultural sector, than from a shift of activities and people from agriculture to other sectors.

There is, however, a big difference between the take-off of the Industrial Revolution and the present situation of African countries. Developing countries in the eighteenth century had a comparative (even unique) advant-

age in new activities, which is not the case for countries developing nowadays except possibly for some very specific activities. African countries have no broad comparative advantage for industry, for example; whereas they may have a comparative advantage for specific agricultural products, due to climate, soils, etc.

Economic policies in most African countries have diverted resources from agriculture to industry and utilities. However, now it is obvious that these policies, although depriving farmers of resources they had created, did not contribute significantly to a change in structure and growth of African countries. The main reason for this disappointing result is the "constructivist" attitude of the authorities who traditionally believed that the structural pattern of change could be decided in advance by a centralized process. In fact, this had not been the case in European countries during the Industrial Revolution: resources were transferred from sector to sector by those who owned them, in a spontaneous and decentralized way. The example of "successful" countries in Southeast Asia points in the same direction. It could be said, therefore, that African agriculture suffers from unsuccessful industrialization strategies.

We believe that development cannot be a sort of "automatic" outcome of a forced transfer of resources. If farmers do represent a major part of the African people, the development of their countries cannot take place without them and without consideration for their property rights on the resources they create. This is the reason why we believe that consideration must be given to agriculture or, rather, agriculturists. However, this is not a reason to adopt a "constructivist" attitude, similar to the one adopted in favour of industrialization, and to look for any possible way of shifting resources toward agriculture. In the present report, we have tried to avoid such a systematic bias, as well as any value judgement about agriculture and its role in the development of the African economies.

In this connection we consider the criterion of self-sufficiency irrelevant and purely normative. In fact, the decrease in self-sufficiency in agriculture, which is taking place in Africa, can be explained by at least three factors:

1. A change in international specialization, which could be normal and even desirable. This may not be the case in Africa. We must not forget,

however, that other less-developed regions may have a strong comparative advantage in agriculture, as may be the case for rice, for instance. In such cases, it is more and more difficult to try to compete with other producers and a voluntarist policy may lead to failure and unsustainable cost.

2. An increase in imports due to an excessively skewed distribution of purchasing power. The solution consists in applying a stabilization programme and not in looking for various ways to increase self-sufficiency.
3. A relatively lower increase in agricultural productivity, compared with other countries. The solutions are to be sought in technology and incentives.

Part of the explanation for the declining relative production of agricultural commodities in Africa (and, therefore, for the declining degree of self-sufficiency) may be due to climate and soil properties. This explanation would mean that "natural" specialization might not favour some export crops, such as rice. In that sense the problem would be one of failing industrialization policies rather than failing agricultural policies. In other words, the "natural" specialization of Africa may not lie in its agriculture. Poor overall performance, therefore, might not be due to adverse policies in agriculture, but to a lack of incentives in other activities.

Thus, in absolute terms, there could be a general lack of incentives preventing the promotion of growth in Africa, of the agricultural, industrial and tertiary sectors. In relative terms, however, agriculture may also suffer from a "natural" comparative disadvantage and from the "artificial" disadvantages of a sector-specific and macro-economic origin, which are considered in the following chapters. These latter distortions must be removed.

Since the authors of the present report are neither development economists nor experts in any specific country, their main emphasis is on a general description of the global economy and of its agricultural sector. They have no precise knowledge either of any particular institution or of any particular agricultural product of the countries concerned. They do not claim to compete, in that respect, with the wide and detailed knowledge of experts working with the IMF, the World Bank, other international organizations,

such as FAO, or with the governments of the various countries. They are attempting to present the basic economic issues for each country within a broad theoretical framework and historical perspective. The report is addressed mainly to government officials. As is well known, an insider may be less capable of tracing the fundamental balance sheet of a country than an outsider who has a more general and superficial view. However, the usual caveat holds good, according to which, errors of incompleteness are unavoidable, given the huge task of analysing five countries within a period of a few months.

Part 1

Background

1. Sub-Saharan agricultural development

Since 1960, while there has been a steady decline of agricultural output per caput in sub-Saharan Africa, there has been a steady increase of such output in the least developed countries (LDCs) of other regions. The main reason for this dismal performance has been the adverse internal terms-of-trade effects against agriculture that governments have tolerated in favour of urban populations. The resulting excessive migration of the labour force from rural to urban areas has created a labour shortage in agriculture. Whether price incentives for agriculture and against industry are sufficient to reverse this trend in migration and whether additional changes in terms of an improved agricultural infrastructure should be implemented remains a controversial issue between the structural change paradigm and the price incentive paradigm.

AFRICA, ASIA, LATIN AMERICA

The countries in sub-Saharan Africa differ sharply from nearly all other developing countries in their agricultural and macro-economic performances.

With the exception of a few years and a period of relative stability in the late 1970s, the index of sub-Saharan food production per caput declined considerably from the early 1960s to the early 1980s. This is in marked contrast to the growth in per caput food production in Asia and, in particular, in Latin America up to 1980 (Figure 1).

The economic growth of the African countries in terms of GNP per caput was also among the worst of all developing countries over the last 20 years (Table 1). A common factor explaining this decline as well as the extremely low growth rate in per caput GNP is the increased rate of population growth.

TABLE 1
Average annual growth rate of GNP per caput in developing countries, 1965-85

	%
Low-income countries ($< \$400$ in 1985)	0.4
Middle-income countries (\$400 - 1 600 in 1985)	2.6
Upper middle-income countries ($> \$1\ 600$ in 1985)	3.3
TOTAL developing countries	3.0
Sub-Saharan Africa	1.0

Note: There are 39 countries in sub-Saharan Africa, with statistical data available for 33. Twenty-four of them are low-income countries and nine are middle-income countries. Among the latter category, in order of increasing GNP per caput: Mauritania, Lesotho, Liberia, Côte d'Ivoire, Zimbabwe, Nigeria, Cameroon, Botswana, and the People's Republic of the Congo.

Source: World Bank, 1987.

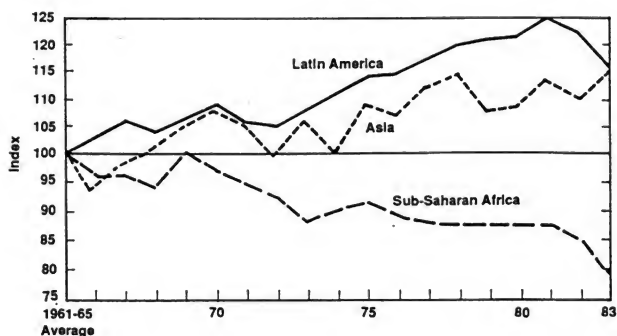
It averaged 2.4 percent annually during 1960-70, and 2.8 percent during 1970-82, while agricultural production rose at annual rates of only 2.5 percent and 2.1 percent, respectively (Due, 1986). Population growth rates, past and projected, are shown in Figure 2. For both Asia and Latin America, the peak was reached around 1980, followed by a projected considerable decline afterwards. For sub-Saharan Africa, the peak has not yet been attained, and for the next ten years, an acceleration in population growth seems inevitable. Population growth in sub-Saharan Africa represents a common explanation for the worst agricultural and macro-economic performances among all the developing regions. This is only one of many causes.

SHIFTS OF RESOURCES FROM THE AGRICULTURAL SECTOR

In common with all developing regions, Africa wanted rapid development. It thought that this goal could be realized by shifting resources from the traditional agricultural commodity sector to the nascent industrial and

FIGURE 1

Index of per caput food production in developing regions, 1961-83 (1961-65 = 100)



Source: Due, 1986, p. 21.

manufacturing sector.

A particular feature distinguishing many African countries from other LDCs is the fact that they possess state marketing agencies or boards to transfer resources. They are monopolies for the purchase of cash crops bought at administratively fixed low domestic prices (generally called producer prices) and sold at usually higher prices, which for export crops, are the prevailing world market prices.

The parastatals had their origin in the colonial period, notably during the economic depression of the 1930s and the Second World War, replacing competition among the former trading companies (van der Laan, 1987). The monopoly power of the marketing boards can only be weakened by smuggling and parallel markets. Their financial surpluses arose from the difference between the higher sale price in the world market and the lower

purchase price in the domestic market. In West Africa, as early as the 1939-51 period, a price margin set by the marketing boards varied generally between two- and three-fifths of the selling price (Bauer, 1964). However, at that time, the original purpose of the marketing agencies was the price stabilization of primary commodities and the development of agricultural activity.

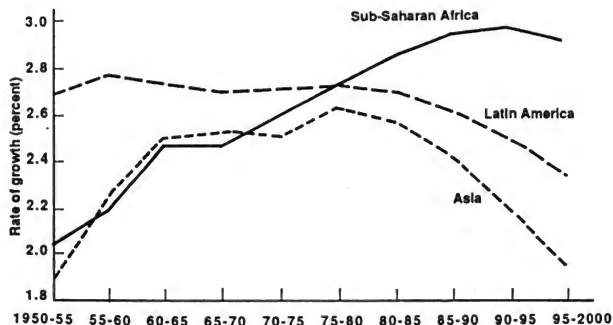
In the late 1950s, marketing boards had accumulated enormous reserves of foreign exchange, following the commodities boom during that decade. Politicians were tempted to divert resources from the future need of price stabilization and agricultural investment to the emerging industrial sector. Despite the fact that a large section of the population (60-80 percent) was and still remains within the agricultural sector, farmers have little political power. Moreover, they do not offer sufficient political resistance to avoid transfer in favour of politically strong urban populations where industry and manufacturing are located (Bates, 1981). The process of resource shifts began with long-term loans granted by marketing boards to governments at low interest rates; these were rapidly transformed into grants and simple transfers of the parastatals' surpluses to government budgets. Thus, the monopoly system of the marketing boards gradually changed into a governmental taxing agency of agricultural output.

Taxing the agricultural sector is legitimate inasmuch as other sectors are also taxed. However, most country studies by the World Bank on sub-Saharan Africa come to the conclusion that the high nett fiscal burden has fallen primarily on the agricultural sector, compared with the industrial sector (see also: World Bank, 1981, 1986 and Bates, 1981).¹ Consequently, the adverse effect of this nett transfer of resources from agriculture (defined

¹ A particular transfer channel of agricultural resources toward the industrial sector concerns taxing domestic crops, in favour of food subsidies, to the urban population. Our argument is not against food subsidies, but against their special financial source provided by poor farmers producing domestic crops. Industry profits from food subsidies, since, otherwise, it could be forced to pay a higher real wage.

Besides the humanitarian arguments for food subsidies, the basic economic argument concerns labour efficiency depending on nutrition. The basic political argument, particularly for sub-Saharan Africa, concerns the maintenance of the existing political regimes. If food subsidies are maintained there is less danger of urban riots.

FIGURE 2
Population growth rates in developing regions, 1950-2000



Source: Due, 1986, p. 22.

as the difference between agricultural output taxes and agricultural input subsidies) consists precisely in the discouragement of agricultural output as observed in sub-Saharan Africa.

TWO PARADIGMS

In the academic and political discussion about the dismal agricultural performance in sub-Saharan Africa, there have been two opposing views: the structural change paradigm and the price incentive paradigm. Both approaches agree on the adverse effects on production of the shift of resources from agriculture. Their disagreement concerns the interpretation of the production function of the total agricultural output.

For those who present the structural change paradigm (e.g. Delgado &

Mellor, 1984), the limiting factor of African agricultural production is represented by labour. For the agricultural sector, the supply of labour is considered to be rather inelastic with respect to real wages. Even if price distortions with respect to agricultural producer prices were fully removed, implying a considerable increase in the marginal value of labour, there would still be insufficient incentive to attract labour from the non-agricultural sector, given the considerable wage differences between the two sectors. Even if the urban labour force were motivated to enter the agricultural sector, the total agricultural output effect would still be modest. Since in sub-Saharan Africa the ratio of rural to urban labour is three to one, a rise of 10 percent in the former (necessitating a 30 percent decrease in the latter) would increase agricultural output only by 10 percent, assuming a unitary elasticity of agricultural supply with respect to labour input.

The policy recommendations of the structural view are, therefore, rather straightforward. Agricultural output could be extended more sustainably by increasing capital. However, the marginal value of private capital will not rise considerably after re-establishing the incentives in terms of higher producer prices. What is still lacking is agricultural infrastructure. Consequently, the prerequisite for a sustained rise in total agricultural output would be structural changes such as improved agricultural infrastructure (roads, irrigation, research, input delivery systems, level of farmer education, access to agricultural services, etc.).

The opposite view, expressed by the price incentive paradigm, (e.g. Schiff, 1987) is less pessimistic about the effects of price incentive policies on total agricultural output. It concedes the argument that the provision of public goods (infrastructure) has to be viewed as a complementary instrument. The extreme version of the approach looks, in a more global way, at the internal terms of trade between agriculture and non-agriculture. Not only do producer prices of agricultural products have to be readjusted to their market prices, but also the prices of industrial products have to be defavoured by reducing tariff and non-tariff protection. Despite the massive outflow of labour into the urban agglomerations, the majority of labour is still in the rural sector. Since the rate of population growth in sub-Saharan Africa is not only among the highest in the world, but is still accelerating, it is urgent

to reverse radically the internal terms of trade radically in favour of agriculture, to stop the labour outflow, and thus reverse the declining trend of agricultural output per caput. The possibility of a price-inelastic aggregate agricultural supply is considered as a short-term phenomenon.

THE WORLD BANK AND ITS CRITICS

The standpoint of the World Bank in the above debate has been unambiguously clear since at least the early 1980s: there should be an incentive pricing policy of agriculture and the removal of inefficient parastatals.

The view of the World Bank was first revealed by its report, *Accelerated development in sub-Saharan Africa: an agenda for action*, generally called the "Berg Report", published in 1981. The original purpose for initiating the report was not so much to indicate the causes and remedies of the disastrous agricultural performance of sub-Saharan Africa during the 1970s (agricultural output per caput declined 1 percent per year), but to explain the reasons for the catastrophic macro-economic development, in terms of per caput GNP stagnation, and of the growing balance of payments crisis.

At the time of the report, and particularly later, there was clearly an abundance of possible causes which could be classified as external factors (recession and rising protectionism of the industrialized world, worsening of the terms of trade, high world interest rates, and increasingly limited access to international financial markets); and internal factors (an over-expanded public sector with the consequence of wasted resources, large budget deficits, policies of import substitution, overvaluation of domestic currencies), and of some *force majeure* factors, such as droughts, political upheavals, military conflicts, or simply bad luck.

The characteristics of the Berg Report were that it attributed a limited role to international factors (which became, admittedly, more alarming in the years immediately after its publication; and that it put the main emphasis on domestic policy failures. The dismal macro-economic development of sub-Saharan Africa was chiefly blamed on the public sector, which was overly expanded, largely inefficient and often corrupt. Particular attention was drawn to the imbalanced development of the agricultural and industrial sectors as a consequence of the continuous shift of resources from the

former to the latter. The main remedies proposed by the Berg Report were, in general, state minimalism and, in particular, the removal of distorted relative prices, within the agricultural sector and between the agricultural and industrial sectors. This agricultural development strategy anticipated a decade of agricultural rehabilitation after which the process of industrialization could again follow its usual path. In particular, it was an agricultural-based development strategy with particular emphasis on export-oriented policies, as advocated by the Berg Report. It was on this particular strategy that most of its critics were concentrated.

One year before the Berg Report was released, the Organization of African Unity (OAU) had already published its own solution, generally called the *Lagos plan of action* as it had been elaborated by African policy officials at the extraordinary summit meeting of the OAU in Lagos in April 1980. The *Lagos plan of action* gives the agricultural sector equal importance with the industrial sector (which constitutes an important shift in development strategy, even though the argument is based on national accounting, according to which both sectors provide each other with inputs and markets). It also re-emphasizes import substitution rather than export promotion and concentrates its foreign trade hopes on African market production, by strengthening economic cooperation and integration within the continent. Furthermore, in the official response to the Berg Report, the OAU (1982), the Economic Commission for Africa (ECA) and the African Development Bank (ADB) stressed external factors as the main cause for the disappointing rate of development in sub-Saharan Africa. They opt against an export-oriented agriculture because an increase in exports of primary commodities would make African countries more vulnerable and more dependent on international price fluctuations and economic activity.

The academic response to the Berg Report is mainly concerned with the arguments for and against agricultural export promotion. A first criticism concerns the question of whether or not there is a trade-off between export crops and food crops, such that total agricultural output would remain constant (Gusten, 1984). This view clearly coincides with that of the structural change paradigm, according to which agricultural inputs (e.g. labour and private capital) are limited so that a sensible increase in total

agricultural production by following the policy of agricultural export promotion cannot be expected. However, defendants of the price incentive paradigm would argue (admittedly in more vague but plausible terms) that the development of domestic food crops is linked (and not "de-linked") to the development of cash crops. Thus, the production of cash crops enlarges the infrastructure for the production of food crops in terms of transport, input supply services (for seeds, fertilizers, agricultural equipment and credit) and marketing of food crops (Gusten, 1984).

A second criticism discussed by Cleaver, 1985 is often put forward with respect to the realignment of the domestic producer price of export crops with the international price. It is argued that the world market price of agricultural commodities is not the true reference price, since it is distorted by the subsidy policies of those developed countries which also produce primary commodities. However, for any given country, the world price constitutes the opportunity cost of producing a commodity instead of importing it, or the effective price of exporting it. For saving or gaining foreign exchange, world prices, whether distorted or not, constitute the relevant reference prices (Little & Mirrlees, 1974).

The distortion in world agriculture constitutes the main theme of the World Bank's *World Development Report, 1986*. With respect to sub-Saharan Africa, it maintains the same position as that expressed in the Berg Report. As far as world agriculture is concerned, it stresses the inefficient farm policies in the developed North and in the developing South. In the North, agricultural products are produced at high costs but are highly protected and have thus led to vast agricultural surpluses. In the South, and in particular in sub-Saharan Africa, costs are increased by heavily taxing agriculture and thus producing huge agricultural deficits. The northern and southern distortions can survive because portions of the northern surpluses are sold or granted to the South.

A third criticism of the Berg Report (and of the *World Development Report, 1986*) considers the proposition of agricultural export promotion as a fallacy of composition (Godfrey, 1983; Lipton, 1987). While such a policy would be appropriate to one country, there would be a collapse of world market prices if all countries followed the same advice. The same type of criticism

is addressed to the policy prescriptions of devaluation, when a total group of LDCs devalue simultaneously, as has been increasingly the case in the recent past. If several producer countries of primary commodities were to devalue, they would bring about adverse terms-of-trade effects resulting in a fall in the international price of those primary commodities.

According to Goldstein, 1986, the conditions for this adverse effect are rather restrictive. The first condition concerns the size of the domestic supply-price elasticity. If the latter is high, then a devaluation which raises the domestic price of primary exports will lead to a considerable increase in the domestic supply of primary commodities. The second condition concerns the market power of the devaluing countries which all produce the same primary commodity. It is conceivable that their share in the world markets is relatively high. Together with the assumption of high domestic supply-price elasticities, the devaluation of a group of countries could considerably increase the world supply of a specific commodity resulting in a fall in the world price. However, the total group of all non-oil developing countries has a rather low share in the world markets of all primary commodities. Thus, their global share fell from 31 percent in 1968-70 to 19 percent in 1979-81 and for Africa (including North Africa) from 7 percent to 3 percent, respectively (Goldstein, 1986). It remains true that certain countries have a high market power in specific commodities, such as cocoa.

STRUCTURAL AND MACRO-ECONOMIC ADJUSTMENT

Contrary to many other developing countries, most sub-Saharan countries are faced simultaneously with two problems: the debt problem and the agricultural problem. Since huge budget deficits are one of the main causes of the debt problem, a cut in budget deficits is one necessary element among the macro-economic adjustment measures for solving (or for not aggravating) the debt problem. Since the excessive fiscal burden on agriculture is a major cause of the African agricultural problem, a decrease in agricultural taxes is one important element among the structural adjustment measures for solving the problem. The particular African dilemma is twofold. On the one hand, the structural adjustment measures for agriculture set a limit to cuts in budget deficits. On the other hand, both adjustment programmes,

(macro-economic and agricultural), have a particular effect on urban groups, whose discontent leads to political instability. The political bias against the rural sector is, therefore, at the root of agricultural discrimination. Whatever well-designed adjustment programme is proposed by the World Bank and the IMF, political pressure from the urban population will always set the limits.

A particular example of the conflict between macro-economic and structural adjustment programmes concerns the reduction in input subsidies for agriculture (in particular for seeds and fertilizers). Such a policy is compatible with the philosophy of the IMF and the World Bank, to the extent that the cut in taxes on agricultural output is substantially higher than the cut in agricultural subsidies.² This view is not necessarily shared by national governments since they may voluntarily cut input subsidies, but less voluntarily cut output taxes.

The choice for most developing countries is no longer between adjustment versus finance, but between gradual versus abrupt adjustment, as far as the improvement of the current account is concerned (Zulu & Nsouli, 1985). Neither the World Bank nor the IMF can be criticized on the grounds of a need for macro-economic adjustment, since the latter has become the last resort, with or without the concurrence of these two international institutions. The critical points which could be advanced against their programmes concern the length of the adjustment process and, in the case of Africa, their possible, though unintended, adverse repercussions on the agricultural sector.

Agriculture has been exploited for decades on behalf of industry. Consequently, the agricultural sector should now be protected in the transition period, during which an abrupt structural adjustment programme has to be implemented. The period of the macro-economic adjustment should be lengthened since, otherwise, neither of these two plans may be realized.

² If all inputs were subsidized at an equal rate, the subsidy policy would be equivalent to a reduction of the output tax. Bearing in mind transaction costs, a direct decrease of the output tax would be cheaper for the economy than subsidizing inputs. (See Stiglitz, 1987.)

FOREIGN AID AND THE SAHEL PROBLEM

The fundamental cause of the decline in sub-Saharan agricultural production has been the accelerated migration of labour from the rural to the urban sector, as a consequence of disincentives for the primary sector and of incentives for the secondary and tertiary sectors. Another cause concerns the lack of migration of the labour force within the rural sector of sub-Saharan Africa or, more precisely, insufficient migration of rural labour from the Sahel countries to the agricultural sector of the Guinean countries.

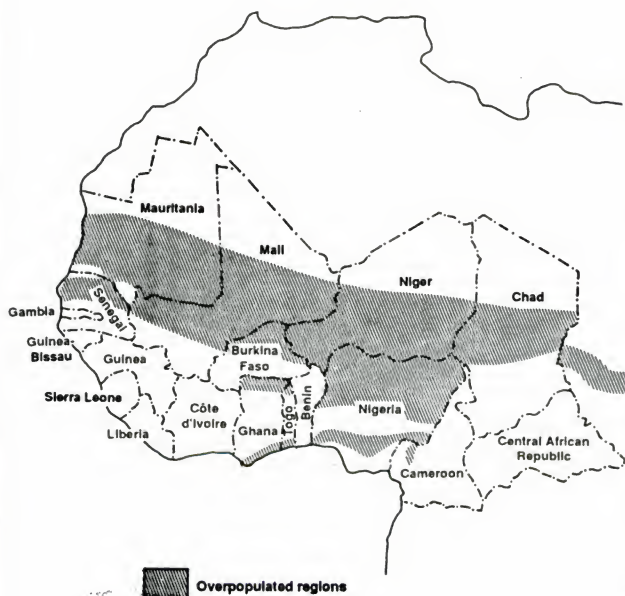
The Sahel is located at the southern border of the Sahara and it comprises six countries (Mauritania, Senegal, Mali, Burkina Faso, the Niger, Chad). To a large extent, they coincide with those regions that FAO (1980) has called overpopulated areas (32 million people), since their available agricultural resources are largely limited (Figure 3). Southwards from the Sahel countries are the Guinean countries (Gambia, Guinea-Bissau, Guinea, Sierra Leone, Liberia, Côte d'Ivoire, Ghana, Togo, Benin, Nigeria, Cameroon and the Central African Republic) with a population of 133 million, and with per caput incomes two or three times higher than those of the Sahel.

The Sahelian desertification problem became known to the larger public during the drought of 1968-73. Marked climatic changes are not an isolated event in this region, but are typical for the Sahel, occurring every 25 to 30 years. There are two particular features of the Sahel: no individual property rights on land, which is free and accessible to essentially everyone of the region; and high labour mobility within the region itself and from the Sahel to the South.

The Sahel problem is an example of the common property resource problem, which has enjoyed a prominent position in the history of the analysis of externalities since the debate between Pigou and Knight. Common property resources consist in renewable natural resources accessible to all and free of charge. *The Tragedy of the Commons* (Hardin, 1968) includes, not only the excessive use of common bodies of air and water as dumping sites, but also, the overuse of ocean fisheries, scenic areas or grazing and cultivable lands, as in the case of the Sahel.

Together with common cultivable land, the only scarce production factor is labour (L) from the point of view of each individual farmer. The farmer

FIGURE 3
Overpopulated regions in the Sahel



does not take into account land as the second factor of production, such that the farmer's optimal production point is attained where the average product of labour (APL) is equal to its opportunity cost (OCL). By aggregating all farmers of the Sahelian zone, we obtain total labour input at P1 which represents the (active) population in the Sahel (Figure 4). From the social point of view, the optimal labour input is at P0 where the marginal product of labour (MPL) is equal to its opportunity cost (OCL). The solution P1 represents an efficiency loss equal to the area ABC since the value of the resource input (AP0P1B) exceeds the value of the resource output (AP0P1C). Common property land is overused. The existence of land property rights would impose solution P0. Labour would receive a total income of $OP_0 \times AP_0$ and land would obtain a total rent of $OP_0 \times AQ$. As is well known, this optimum solution could also be realized by taxing labour output at the rate AQ (or by restricting entry to the commons with licensing fees for farming).

Taking migration into account, the opportunity cost of Sahelian labour is the income the Sahel population could earn by migrating to Guinean countries. We shall follow the assumption put forward in a model developed by Sinn (1987) where Guinean countries have well-established property rights on land (even though in many parts of this region there is still tribal land tenure rather than individual land tenure). With the existence of property rights, labour is remunerated with its marginal product. Consequently, the opportunity cost of Sahel labour would be the marginal productivity of labour in Guinean countries (MPG).

In Figure 5, the (active) population of the Sahel zone is measured from left to right and that of Guinean countries from right to left. The average and marginal productivity of the Sahel (Guinean) population is APS and MPS (APG and MPG), respectively. The migration equilibrium point is determined by the intersection point B of the APS and MPG schedules. The welfare gap in favour of Guinean countries is indicated by the distance RB. The overpopulation of the Sahel is equal to POP1. This excess population would migrate to Guinean countries provided that property rights on land were established in the Sahel. In that case, the marginal (and average) product of labour of both groups would be equal to each other (point A).

The loss in agricultural production of the non-optimal population structure of the total area is indicated by the surface ABC.

An additional reason for overpopulation of the Sahel and, consequently, for a still higher loss of agricultural production in the whole area, (Sahelian and Guinean countries), stems from regular foreign aid, mostly food aid, which the region has been receiving since the heavy drought of 1968-73 from the OECD and OPEC countries and from international financial institutions such as the World Bank and the European Development Bank. For the 1980s, foreign aid is estimated at an annual average of US\$1 400 million, which corresponds to foreign aid per caput, of US\$40 a year. Since Sahelian countries belong to the low-income group of developing countries (less than US\$400 per caput), foreign aid constitutes an increase in the average income per caput of about 10-20 percent. Guinean countries also benefit from a regular aid programme, estimated to amount to an annual average of US\$20 per caput (see Table 2 and Somerville, 1986).

FAS stands for the differential amount of foreign aid per caput, which the Sahelian population receives, above that of the Guinean population. Adding FAS to the APS schedule in Figure 6, we arrive at the APS + FAS schedule whose intersection point E with the MPG schedule determines the new migration equilibrium. Foreign aid has induced an additional overpopulation of the Sahel equal to P1P2 and additional production loss for all countries equal to the surface BCDE. Consequently, the total overpopulation of the Sahel, POP2, creates an agricultural production loss equivalent to the area ADE. The optimum solution would be that the part POP2 of the Sahelian population producing the amount of AP0P2D, would migrate to Guinean countries where it could produce a total output of AP0P2E.

The devastating result of the food aid differential to the Sahel on the agricultural production of both country groups is not a surprising phenomenon, since, in the event of negative conditions, land users would be taxed rather than subsidized. Thus, in order to achieve the optimum population P0, the Sahel output should be taxed by the rate of AQ (Figure 6). However, this evidently anti-humanitarian measure could be replaced by channeling the foreign aid from the Sahel in favour of the Guinean countries. If the foreign aid differential in favour of Guinea amounted to AQ, a migration of

TABLE 2
Official aid to the Sahel, 1975-83

	1975	1979	1980	1981	1982	1983
 (current US\$)					
Total amount (in millions)	817	1 623	1 502	1 972	1 513	1 259
Per caput: Sahel	23	40	39	44	39	
Guinea ¹	10	17	21	20	27	
Differential in favour of Sahel	13	23	18	24	12	

¹ Sub-Saharan Africa (excluding the Sahel).
Source: OECD, 1984, pp. 7 and 51.

POP2 from the overpopulated Sahel to the underpopulated Guinea would take place with a corresponding agricultural production gain of ADE.

A basic assumption of the above recommendation concerns the possibility of migration. It is assumed that Guinean countries do not establish barriers to migration. The first-best solution of the Sahel problem consists in the introduction of property rights, but the high resource costs of such a programme may still impede legal land reform.

CONCLUDING REMARKS

Leaving aside the Sahel problem, sub-Saharan agricultural development over the last 20 years has been viewed as chaotic. The excessive taxation of its agricultural sector and the high effective protection of its industrial sector have caused massive outflows of the labour force, from rural to urban areas. There is a need to re-establish the internal terms of trade in favour of agriculture in order to stop labour migration from the rural sector inhabited by 60-80 percent of the population. However, the present political regimes will be reluctant to undertake this structural change since it would disenfranchise the urban population from whom they derive their power. The IMF stabilization programmes, which affect the standard of living of the

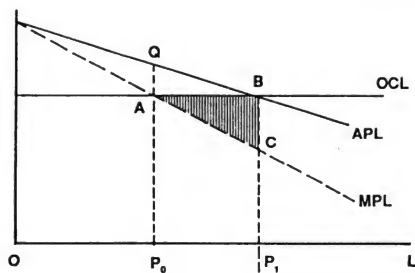


FIGURE 4
Welfare cost of the commons

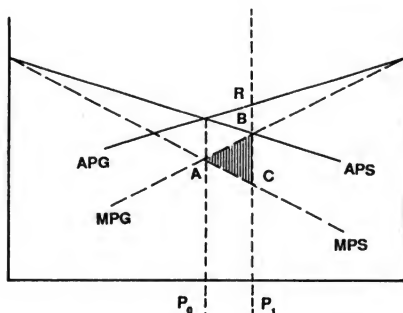


FIGURE 5
Migration equilibrium between Sahelian and Guinean countries

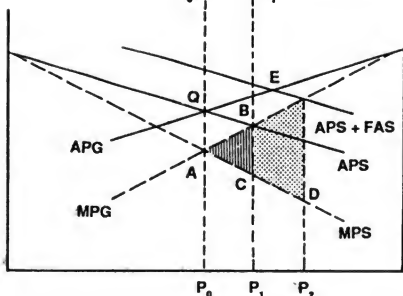


FIGURE 6
Welfare cost of foreign aid to the Sahel

whole country including the urban sector, have already created considerable political tensions. Even if relative prices were to be made to correspond to the comparative advantages between the agricultural and industrial sectors, the “price incentive” programme would not be sufficient to overcome the deficiencies of a 20-year lasting distortion against the agricultural sector. Thus, the additional prescriptions of the structural change paradigm may be inevitable.

REFERENCES

- Bates, R.H.** 1981. *Markets and States in Tropical Africa*, (Chapter 1). Los Angeles.
- Bauer, P.T.** 1964. *West African trade*, p. 294. London.
- Cleaver, K.M.** 1985. *The impact of price and exchange rate policies on agriculture in sub-Saharan Africa*. World Bank Staff Working Paper, 728.
- Delgado, C.L. & Mellor, J.M.** 1984. A structural view of policy issues in African agricultural development. *Am. J. Agric. Econ.*, 66:665-670.
- Delgado, C.L. & Mellor, J.M.** 1987. A structural view of policy issues in African agricultural development: reply. *Am. J. of Agric. Econ.*, 69:389-391.
- Due, J.M.** 1986. Agricultural policy in Tropical Africa: Is a turnaround possible? *Agric. Econ.* 1:19-34.
- FAO.** 1980. *Land resources for populations of the future*. Rome.
- Godfrey, M.** 1983. Export orientation and structural adjustment in sub-Saharan Africa. *IDS Bull.*, 14(1).
- Goldstein, M.** 1986. The global effects of fund-supported adjustment programmes. *IMF, Occasional Papers*, 42.
- Gusten, R.** 1984. African agriculture: which way out of the crisis? *Rural Africana*, 19-20:55-61.
- Hardin, G.** 1968. The tragedy of the commons. *Science*, 162, reprinted in H.E. Daly, ed. *Economics, Ecology, Ethics*, p. 100-114. San Francisco.
- Lipton, M.** 1987. Limits of price policy for agriculture: which way for the World Bank? *Development Policy Review*, 5:197-215.
- Little, I.M.D. & Mirrlees, J.A.** 1974. *Project appraisal and planning for developing countries*. London.
- OAU.** 1980. *Lagos plan of action for the economic development of Africa 1980-2000*. Addis Ababa.
- OAU.** 1982. *Accelerated development in sub-Saharan Africa: an assessment by OAU, ECA and ADB secretariats*. Addis Ababa.
- OECD.** 1984. *Official development assistance to CILSS member countries*. Paris.
- Schiff, M.** 1987. A structural view of policy issues in African agricultural development: comment, *Am. J. Agric. Econ.*, 69:384-388.
- Sinn, W.H.** 1987. *Das Sahel problem*, Discussion paper, No. 87-05, University of Munich.
- Somerville, C.M.** 1986. *Drought and aid in the Sahel*. (Chap. 7), Westview Press. Boulder.

- Stiglitz, J.E.** 1987. Some theoretical aspects of agricultural policies. *Research Observer*, World Bank, 2:43-60.
- van der Laan, L.** 1987. Marketing West Africa's export crops: modern boards and colonial trading companies. *J. Mod. Afr. Studies*, 25:1-24.
- World Bank.** 1981. *Accelerated development in sub-Saharan Africa: an agenda for action*. Washington, D.C.
- World Bank.** 1986. *World development report 1986*. Washington, D.C.
- World Bank.** 1987. *World development report 1987*. Washington, D.C.
- Zulu, J.B. & Nsouli, S.M.** 1985. Adjustment programmes in Africa: the Recent Experience, *IMF*, Occasional Papers 34.

2. A theoretical framework

INTRODUCTION

Chapter I gave striking evidence that during the last two decades, agriculture has met particular problems in Africa. Some reasons are well known: for instance the specific conditions of production (climate, nature of soils, etc.). More generally, we may separate structural aspects, such as changes in specialization, migration or technique, and policy aspects. The main problem when looking at specific cases is to disentangle the various causes: for instance, it may appear that agriculture has "suffered" more than other sectors from some past developments, but a further analysis may indicate that, in fact, it has "suffered" from a perfectly understandable change in specialization, which has no obvious solution.

It is also becoming clearer that economic policies usually did not give priority to agriculture. Few studies, however, stress the role of macro-economic policies on African agriculture, along with sector-specific policies. It is important to underline that the poor performance of African agriculture does not depend mainly on structural reasons, but on sector-specific and, even more, on macro-economic and exchange rate policies. We do not believe that it is possible to propose a full, formalized model which could be automatically applied to all possible cases. We feel that a general theoretical framework, however, may help in distinguishing the various possible cases and in proposing policy remedies. There is one difficult problem: in most cases, farmers have suffered in the business cycle. This raises two questions:

1. Which policies, arrangements or institutional changes would make it possible to avoid a repetition of this problem in the future?
2. Would it be justified to compensate farmers for their former losses, if it would slow down the rhythm of structural change? We will not answer such a question, nor offer our own value judgments, but such

concerns may be present in the minds of those who care about agriculture in Africa.

MACRO-ECONOMIC POLICIES

The present problems of most African countries, as well as those of Latin American countries, cannot be understood just by looking at the present situation and at present economic indicators. The existing situation has been inherited from past developments and is the logical consequence of policy errors, which are very similar from country to country.

Business cycle

During the Middle Ages in Europe, or in present societies that are still poorly diversified, the fluctuations in economic activity came mainly from real exogenous shocks (e.g. periods of starvation due to climatic fluctuations). All members of the society suffered from these shocks and from the possibility of protecting themselves against them, through insurance. In diversified modern economies such real shocks are without importance. However, new causes of instability have appeared: business cycles and crises during the nineteenth and twentieth centuries of a monetary and financial nature, as is shown by the fluctuations in the relevant variables (interest rates, exchange rates, etc.).

African economies, which are based mainly on agriculture, are still deeply affected by real shocks, but these events do not have a predominant importance and they are rather easy to assess. Furthermore, they suffer from monetary and financial crises of an internal or external origin. An interpretation of these crises is thus necessary. The one we propose is based mainly on the so-called "Austrian theory" of business cycles, which, we believe, gives a fair account of the real situation of African economies in the past two decades.¹

¹ The "Austrian theory" was mainly developed by Ludwig von Mises, 1934, 1978 and Friedrich Hayek, 1931, 1933. However, it must be remembered that they are heirs to a tradition going as far back as Richard Cantillon in the eighteenth century, through Jean-Baptiste Say and Charles Coquelin in the nineteenth century in France, and the Free Banking economists in Great Britain.

The Austrian economists give a detailed and persuasive explanation of the “destabilizing” influence of monetary policies in modern monetary systems. As is well underlined by Roger Garrison (1978) they are concerned with processes and not with aggregate quantities and the so-called functional relations between them. Contrary to Keynes (or the monetarists), they do not give a theory of real income determination, but a theory of coordination.

The Austrian theory, like the monetarist one, takes account of the effect of increases in the money supply on the “general level of prices”. It is mainly concerned with changes in relative prices of goods due to monetary expansion and particularly with relative prices between capital goods and consumption goods. Thus, the interest rate is a mere reflection of those changes in relative prices, since it is determined by all markets and not only by the market for loanable funds. Besides, the Austrian theory emphasizes the real effects of monetary expansion (which cannot be considered to be neutral).

The processes through which money enters an economy are even more important than the total variation in the quantity of money. From that point of view, a clear distinction has to be drawn between two different ways in which banks provide credit.

Let us assume, first, that there is no creation of money. In such a situation, credit is backed by the equity capital of banks and funds placed at their disposal by their customers (banks are merely financial intermediaries). They transfer real savings, according to the time preferences of individuals, and the financial system is based on the existence and transfer of individual property rights on savings and capital. No business cycle can appear in such a system, at least if we consider only business cycles of a monetary and financial origin (real shocks may create fluctuations in economic activity). In fact, there is no specific reason for sudden and unpredictable upturns in savings or investment: the time preferences of individuals, which explain savings, and the rate of innovations, which explains investment, are rather stable.

In a system where fiat money can be created by the banking system in a more or less discretionary way, credit is partly backed by the creation of

fiduciary media (notes and deposits). In fact, money is introduced into the economy through the granting of credit. Under some specific institutional arrangements, a rapid expansion of the money supply can take place and inflation occurs. By discounting a three-month bill, banks "exchange a future good for a present good that they produce out of nothing" (von Mises, 1978).

In the first case the actual (market) rate of interest is close to the natural rate (i.e. the rate which allows for equilibrium between voluntary savings and the demand for savings by firms for investment purposes). Except in the unlikely circumstances in which a large set of innovations cause a sudden and large change in the rate of return on capital (at least in the short term), the natural rate of interest probably remains stable. In fact, the natural interest rate is determined by the supply and demand for savings. Demand depends on such factors as technical changes, which cannot occur very suddenly and cannot constitute short-term shocks. On the other hand, there is no reason for sudden changes in the preferences of individuals between the present and the future, which would explain changes in the supply of savings.

If fiat money creation is made possible, there can be a growing discrepancy between the real rate of interest and the natural rate of interest. An excessive creation of credit (and, consequently, of money) decreases the real rate of interest (although the nominal rate may increase because of the incurring inflation). Cheap credit induces firms to decide to "over-invest" (to make investments, the profitability of which does not correspond to the actual scarcity of savings, that is, to the time preferences of participants in the market). As no one is really willing to forego consumption to finance these additional investments, they are financed via "forced savings" (the inflation tax).

Monetary authorities support the creation of credit and what is (wrongly) called "cheap money", since the cost of financing is hidden by the compulsory intervention of governments in the financial and monetary processes. They believe, or the beneficiaries of credit believe, that a low real interest rate indicates a greater availability of present resources and, therefore,

stimulates economic activity. Everyone has the feeling that any specific activity is made easier by low interest rates, but the overall (macro-economic) consequences are not seen, namely: inflation, forced savings, waste of resources and potential instability, along with such frequent consequences such as exchange rate and balance of payments problems. No one can know the natural rate of interest, so that it is obviously impossible to "stabilize" the interest rate in order for it to reflect the real scarcity of capital.

The newly created money and credit are first allocated to producers, which induces them to "bid labour and non-specific capital away from the later stages of production and into the earlier stages and begin construction of whatever specific capital is needed to take advantage of the (apparent) profitability of these long-term projects" (Garrison, 1978). As time goes on, the newly created money flows progressively from the new investors to other economic agents, such as workers. Individuals in society are not ready to accept more savings, since their time preferences could not possibly be affected by the process of money and credit creation. After some time, part of the new investment appears to be unprofitable, and the real interest rate goes back to its former higher level or even to a (temporarily) higher level than the natural rate. Producers have to abandon the more capital-intensive structure of production and go back to the previous structure corresponding to the time preferences of people (i.e. to their willingness to abandon present consumption for future consumption). The economic crisis thus sets in.

One important cause of the business cycle is intellectual: people believe that real interest rates can be lowered not by an accumulation of capital from voluntary savings, but by the artificial creation of credit and money. However, the illusion of financing investment without corresponding desired savings cannot last forever. As borrowers may not be able to forecast accurately the future of the real rate of interest, they may meet difficulties in reimbursing their debt, since they have implemented investments with a lower expected rate of return than the future real market rate of interest.

This brief theoretical explanation of the business cycle seems to be quite consistent with the recent experience of most African countries, although it has to be qualified or supplemented. In general, there was a boom period in the second half of the 1970s, mainly due to favourable prices for some major

raw materials and agricultural products. The rapid increase in export proceeds gave rise to optimistic expectations and countries financed many large investment projects. The financing came from internal sources (money creation in counterpart of credits to firms, particularly public firms and public deficits), and from external sources (foreign debt, corresponding to excessive world money creation). In the 1970s, there was a period of worldwide excess demand, particularly in the developing countries. As is explained later, the excess demand had a flow aspect and a relative price aspect. Similarly, the recession period has a flow and a relative price effect. These effects were reinforced or compensated for by exchange rate policies and sector-specific policies, which are considered later.

Whether the financing of investments was obtained from internal forced savings or external borrowing (which meant forced savings by foreigners), the situation could not continue forever. At one time or another, the real cost of capital had to appear.

In some cases, high agricultural prices gave an impulse to the credit business cycle, as was the case of Côte d'Ivoire. During the ascending period of the business cycle, there may have been over-accumulation of capital in industry more than in agriculture, since it can be assumed that industry is more capital-intensive than agriculture. The shift of resources toward the more capital-intensive sectors was thus a "natural" consequence of the business cycle, but it was also reinforced by specific policies in favour of industrialization.

Agriculture may be particularly dependent on short-run borrowing (marketing credit) more than on equity capital and long-run borrowing. It may, therefore, largely depend on interest rate fluctuations and the availability of credit.

Business cycle and relative prices

Different changes in relative prices occur in the various phases of the business cycle. We have just stressed the changes in the real interest rate and in the relative prices of capital goods and consumption goods. We now add possible changes between the prices of tradable and non-tradable goods.

To analyse such developments, it may be useful to use a graph proposed

by Ahamed (1986). Figure 7 represents the production possibility curve of a country, with a distinction between tradable goods (T) and non-tradable goods (NT). A process of growth implies a shift of the curve away from point O, with possible changes in the shape of the curve. In the absence of any foreign borrowing, the country produces at point A (imports equal exports, i.e. external trade is in balance).

Ahamed considers three possible causes of disequilibrium: an excess spending policy, an external shock, and an internal shock.

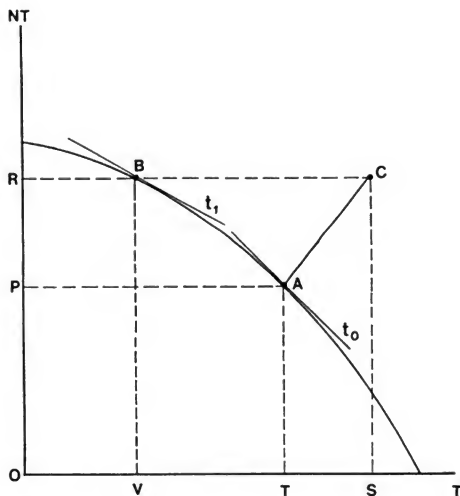
Several causes can exist at the same time. Thus, in African countries, there have usually been excess demand policies and external shocks, changes in relative prices of exportables for instance. This was the case when the price of exportables was high and governments decided to set up ambitious spending programmes and to borrow large sums of money.

For the time being, we shall mainly consider the case of excess spending. Starting from a situation in which there is a balanced budget and national savings are equal to national investment, let us assume that public spending increases so that there is a public deficit. As it cannot be financed by national savings, there is an overall excess demand for savings, which implies a trade deficit. The financing of the public deficit can be obtained either through borrowing or through a creation of money and inflation, which implies forced savings through the inflation tax. As there are not enough internal resources to meet the increased demand, the country as a whole has to borrow from the outside world.

External borrowing makes it possible to shift from point A to point C. As non-tradables cannot be imported, by definition, the national production of non-tradable goods (NT) increases (from OP to OR). The national production of tradable goods (T) decreases (from OT to OV), which means that factors of production have to be shifted from the production of T to the production of NT. As the total absorption of T is equal to OS, a trade deficit, equal to VS, appears. The change in specialization is made possible by a change in relative prices between NT and T: in order for production factors to be induced to shift from A to the initially less desirable point B, the relative prices of NT in terms of T have to become higher (shift from t_0 to t_1).

It is quite obvious that borrowing means an exchange of present goods

FIGURE 7
Production curve between tradable and non-tradable goods



against future goods. In any period in the future, the country has to pay $VS(1+r)$, where r is the rate of interest expressed as a decimal, and, at the end of the borrowing period, it has to pay back VS . The normal expectation of borrowers is that the rate of return of the investments which have been financed via foreign borrowings will be higher than the sums to be reimbursed. If that is not the case, as happened in many African countries, the national level of absorption decreases, at least for some time. Simultaneously, there are changes in relative prices, as the country has to shift back

resources from the NT sector to the T sector. The excess demand policy, without causing any sustained growth, thus produces the following undesirable consequences: resources have to be made available to reimburse the debt and relative prices are unstable. All sectors suffer from this instability, although differently, depending on precise policies and situations.

Domestic and external real shocks are an additional cause of relative price changes. A frequent domestic shock is represented by an increase in real wages higher than the improvement in labour productivity. African countries have often experienced external shocks under the form, for instance, of a decrease in the price of an export product such as copper in Zambia or coffee and cocoa in Côte d'Ivoire.

There are, therefore, several important relative changes to be considered:

- Specific price changes corresponding to real shocks;
- Changes in the relative prices of capital goods and consumption goods and in the real interest rate, corresponding to the various phases of the business cycle; and
- Relative price changes between tradable goods and non-tradable goods, corresponding to macro-economic policies and, possibly, to other events and situations.

These changes in relative prices are more important than those which are usually considered and measured, namely, changes in the terms-of-trade (i.e. between the prices of imports and exports).

Moreover, adjustments in prices can be more or less rapid, so that we must distinguish between short-term and long-term effects. A further distinction has to be made between long-term changes in relative prices (due, for instance, to changes in specialization) and shorter-term price fluctuations. So-called price stabilization policies tend to mix both aspect of the problem.

Exchange rate policies

Exchange rate problems have, in fact, two different aspects: firstly, the possible impact of some phenomenon or policy on nominal or real exchange rates; secondly, exchange rate policies which are usually adopted because of a macro-economic problem.

As regards the first issue, we have already mentioned that an expansionary

policy implies a change in relative prices between tradables and non-tradables (however, not in the long-term, because of factor mobility). This is a mere consequence of the change in the conditions of international specialization.

There may be other reasons for relative price changes between tradables and non-tradables if the policy considered introduces a change in the structure of demand and, therefore, in relative prices. For example, we may assume that public demand is more oriented towards non-tradables than private demand. In such a case, the expansion of the budget or the increase in the public deficit may cause an increase in the relative price of non-tradables. Conversely, the stabilization policy may imply a change in relative prices. What are the implications of this effect for the problems we are studying?

Agricultural products do not necessarily fall into one or other category (tradables or non-tradables). Even if it is assumed that agricultural products fall into the non-tradable category in a specific case, such as the production of indigenous staple food crops, the increase in public demand for non-tradables may not be specifically for agricultural goods. This means that there is a marked lack of information. As the causes of changes in relative prices between agricultural commodities and others are numerous, it is usually unjustified either to conclude that relative prices ought to have a certain value, or to introduce programmes to compensate artificially for assumed price distortions.

The lack of information also means that using indexes of real exchange rates as symptoms of an exchange rate disequilibrium is debatable. The changes in real exchange rates may not reflect the existence of a disequilibrium in nominal exchange rates, but the impact of real phenomena such as a public deficit or a change in international specialization.

As regards the second issue (exchange rate policies), it is quite obvious that many African countries suffer from an overvaluation of the real exchange rate. This is usually because budget deficits have induced money creation and inflation; but governments are reluctant to devalue. They prefer to impose exchange controls, which are quite often detrimental to farmers because their relative political weight is lower than that of other categories

(contrary to what normally happens in developed countries).²

An overvalued currency means that the prices of tradables (imports and exports) are low in comparison with those of non-tradables. Therefore, there is a shift of national demand towards imports and exportables, and a shift of supply towards non-tradables. (As the international demand is supposed to be infinitely elastic, it absorbs what is supplied; if the national supply does not get the necessary incentives, exports are lowered.)

Thus, exchange rate policies may have two important effects, which are of relevance to agriculture: one concerns relative price effects of exchange rate misalignments and the other concerns possible policy reactions to misalignments.

This is the reason why those concerned with agricultural problems cannot ignore such macro-variables as the exchange rate. However, it would also be fallacious to assume that the exchange rate can be used as an instrument to obtain favourable results for agriculture. On the one hand, we do not know the precise relative price effects in the short and long term. On the other hand, such steps might induce further disequilibria which would not necessarily benefit agriculture. It is erroneous to assume that the authorities can use the exchange rate as a policy instrument and that they know the equilibrium exchange rate. This objection falls if there is a perfectly flexible exchange rate system, which, contrary to what is usually assumed, can work well in a less-developed country.

We also believe that it is wrong to be dogmatic about exchange rate policies and exchange rate systems. This is borne out by the experiences of different countries. The perfect fixity of rates within the "franc zone" area for instance has allowed some stability and freedom in trade which did not exist in many other countries.

² Policies such as exchange controls are usually decided under the pretext of so-called "balance of payments problems". In fact, chronic balance of payments problems do not exist. They are a mere consequence of inconsistent policies, whereby monetary authorities pretend to maintain fixed rates while embarking into an expansionary monetary policy. Apparent balance of payments problems are not a cause, but a consequence of budget deficits, financed by monetary creation. Similarly, a trade deficit does not necessarily need to be corrected, e.g. when the trade deficit is the necessary counterpart of sustainable and desirable capital flow.

THE IMPACT OF MACRO-ECONOMIC AND ADJUSTMENT POLICIES ON AGRICULTURE

Adjustment: needs and ways. The necessity for stabilization is evident. However, the measures to be adopted and their consequences differ according to the type of disequilibrium to be cured. As we have seen, we may distinguish three main types, stemming from excess demand policies, excess indebtedness and exchange rate policies. The possible burden of adjustment on agriculture may be different in all three cases. Moreover, and to take a long-term perspective, it is quite clear that agriculture has not benefited from past disequilibrium-promoting policies. It may not be sufficient merely to try to alleviate the share of agriculture in the burden of adjustment, but rather, to consider solutions to avoid the repetition of past events.

We may consider the following possible impact on agriculture caused by stabilization policies:

- If there is excess demand as a result of public deficit, the main consequence on agriculture, apart from possible relative price effects, would be because of deliberate public decisions concerning agriculture (e.g. the implicit or explicit taxation of agriculture to raise revenue or the suppression of subsidies to agriculture in order to reduce the deficit).
- If disequilibrium is mainly due to the development of the business cycle (possibly in connection with a public deficit), the disequilibrium is self-liquidating so long as the cheap-money policy is not continued. However, in most African countries, the resulting indebtedness is mainly of public origin, which means that the burden of adjustment is not necessarily borne by the activities which benefited from the credits obtained in the past. Farmers may suffer from the need to find resources in order to reimburse the funds borrowed.
- As regards overvaluation of currencies, the effects may be more specific. They are considered in more detail below.

Let us initially consider the first two aspects which are, in fact, frequently linked. Let us also suppose that there is a need to balance total demand and total supply.

Adjustment and stabilization programmes have two different aspects:

1. A general flow aspect. Total demand is higher than total supply, which cannot last forever. It is necessary to decrease total demand and possibly even to shift to a situation in which total demand is lower than supply in order to reimburse accrued debt. This situation ought not to be disputed: it must be accepted that reimbursing a debt always means a transfer of resources. From this point of view, it has to be stressed how irresponsible it would be to reject any stabilization programme on the pretext that agriculture might suffer. That would only mean perpetuating the disequilibrium and postponing solutions. However, it is also legitimate to ask whether those who bear the burden of the transfer have also been the ones who benefited from the excess demand. It is quite clear, moreover, that the higher the overall rate of growth, the easier it is to effect reimbursement. From that point of view, the evaluation of a stabilization programme might not only consider the general macro-economic "mechanics" (e.g. tax measures to suppress or to decrease the public deficit), but also the various incentives which might be essential to accelerate growth.

The real economic problem confronting African countries is not a balance-of-payments problem, but stems from the combination of an excess demand policy and a situation caused by wrong expectations: the effective rate of return of projects financed by borrowing is lower than the rate of interest, so that the previous level of total demand is not sustainable if reimbursement of debt has to be met. In such a case, resources have to be diverted from national absorption to exports and the necessary relative price changes have to be accepted. However, these necessary changes cannot be precisely known. And if the indebtedness problem is linked with an exchange rate problem, the purely exchange rate aspects and the relative price effects must be disentangled.

Therefore, the traditional distinction between deficit-correcting and deficit-financing policies is fallacious. A "balance-of-payments deficit" never has to be financed. Either it is the normal counterpart of existing flows of funds, which means that there is no need to finance it, or it is the consequence of a disequilibrium policy implying an excessive level of

spending in comparison with production. The deficit is not to be financed, it has to be corrected, or more precisely, the situation of overspending (or undersupplying) has to be corrected.

2. A micro-economic aspect. Changes in relative prices are inevitable. Traditionally, either the terms of trade effects or the tradable/non-tradable effects are emphasised. These effects exist and it must be decided which category agriculture falls into. There is also another effect, the one concerning the price of time (i.e. the interest rate). Recent business cycles, especially in Africa, are obviously in indebtedness crises. From a macro-economic point of view, there have been distortions in price signals as regards the real exchange rate and the relative price of capital.

As regards the latter, there may be an over-accumulation of capital in some activities. The rate of interest was too low in comparison with the real scarcity of capital and savings (in the country and outside). In such a case, it would appear that the rate of return on capital is lower than the interest rate.

Thus, adjustment means both a change in aggregate demand, for instance a decrease in the budget deficit (or more generally, measures to make an export surplus available), and a change in relative prices. As Ahamed (1986) pointed out, if prices are flexible, the changes in relative prices will be brought about by the decrease in aggregate spending. If not, and especially if there is an overvaluation of the currency, a devaluation might be considered. Quoting Ahamed:

Aside from the political difficulties, implementing such a programme (corresponding to the orthodox theory of stabilization policy) meets two economic problems: the cost of the adjustment process and the technical issue of synchronizing monetary and fiscal policy with exchange rate adjustments. (p. 81)

With reference to Figure 8, there are two different sorts of adjustment cost:

1. The cost of going from C to A (i.e. the cost of suppressing excess demand). There is a direct link between the budget deficit at large (including, for instance, the deficit of public firms) and the trade deficit. Coming

back to A implies either a decrease in public spending, an increase in taxes and/or a decrease in the real purchasing power of private incomes. There are several ways to achieve such a target. For example, a devaluation means a reduction in the purchasing power of wages, if this is not compensated for by an increase in nominal wages. As regards public spending, it necessarily implies distribution effects, as the reduction in public expenditures is the outcome of explicit public choices. Such a consideration will be highly relevant to agriculture. Obviously distribution effects also exist with regard to taxation.

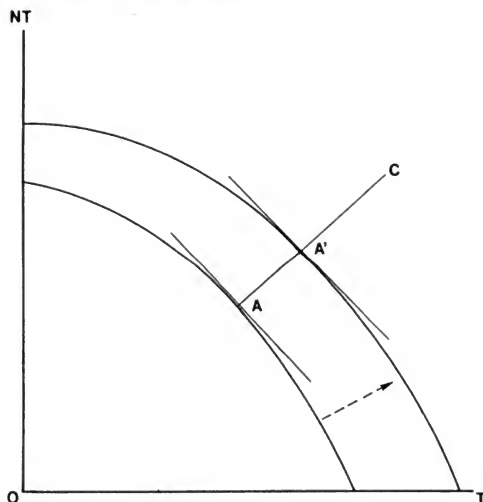
Moreover, the reimbursement of a debt is facilitated if the growth rate of the economy is increased. In Figure 8, the production frontier shifts away from point O and, instead of going from C to A, it is only necessary to go from C to A'. In that respect, supply-side policies (deregulation, tax reforms, privatizations) are of considerable importance. However, two questions must be raised.

The effects of these policies are probably not instantaneous. In such a case, financing may be preferred to adjustment or, at least, should supplement it. A supply-side policy can be considered as an investment, the expected return of which even makes a further increment in debt desirable. However, that recourse to external financing does not mean balance-of-payments financing.

The only justification for external financing is an internal one. It is expected that the new policy is equivalent to an "investment", the internal rate of return is higher than the rate of interest on borrowing. In the absence of such a justification, further external financing can only worsen the situation in the future. Adjustment has to be preferred to financing (except for short-term smoothing of reimbursements). The emphasis made by the IMF on the balance of payments may thus lead to incorrect policies. It would be preferable to assume that "balance-of-payments problems" never exist. So-called "balance-of-payments problems" are mere consequences of internal, more fundamental, problems. They have to be considered as a priority in order to evaluate possible solutions for the future.

Reasoning in global terms can be misleading. When stressing that a "country" can more easily reimburse when its rate of growth is higher, the

FIGURE 8
Adjustment costs in eliminating excess demand



important fact that there may be activities with differing rates of return is often overlooked. The reimbursement problems of low-growing sectors may thus be borne by more expansionary sectors, through various tax or tax-like measures. However, the higher burden on the potentially fast-growing sectors may create disincentives and slow down their progress. This consideration may have some relevance for agriculture.

2. The cost of going from B to A (see Figure 7) (i.e. shift from non-tradables to tradables). This cost is always present, but it may be unevenly distributed. Moreover, there cannot be a general theory of adjustment costs

and it is necessary to rely on a classification of possible cases and/or an observation of existing cases. The cost of adjustment is certainly different depending on the sector, and, within a sector such as agriculture, it may be very different according to specific activities. For instance, it is easier to shift from one annual activity to another than to shift from or to a pluri-annual activity such as coffee or cocoa production.

Two characteristics may be important in evaluating whether a sector has to bear a more or less heavy burden from adjustment:

1. As mentioned by Ahamed (1986), "If non-tradables are labour-intensive, then a shift in relative prices against non-tradables results in a fall in the demand for labour and a *fortiori* a fall in real wages", and the fall in purchasing power will even be the higher the more important is the part of tradables in total consumption. However, such reasoning has two different aspects: it may imply a more or less difficult adjustment, or it may imply a value judgment about the distribution of adjustment costs.

To evaluate gains and costs, it is necessary to consider not only the period of adjustment, but the whole business cycle, including periods of boom and recession.

During a boom period, an individual gained: if he/she was (i) a producer of non-tradables or could shift production at low cost from tradables to non-tradables; (ii) a consumer or buyer of inputs, who was mainly purchasing tradables; or (iii) a citizen, who got a proportion of the additional public spending higher than his/her share as a tax-payer (in a broad sense, including all sorts of price policies). A similar identification of gains and costs could be made during a recession.

It seems that farmers do not benefit much, in comparison with other groups, during a period of boom, either from the relatively low price of imports or from the expansion of public spending. It is more difficult to evaluate their relative position as producers of tradables and non-tradables, since it depends on their particular line of product and their possibilities to shift from one product to the other. However, as is underlined in the country studies, flexibility of production may often be quite underestimated.

Furthermore, even if there are symmetrical gains and costs in recessions and in booms, it cannot be assumed that one compensates for the other, since the business cycle is one of long-term uncertainty, which may be particularly felt in certain agricultural activities. The situation of some African countries in the 1970s is particularly difficult to assess, since there was a combination of expansionary policies, inducing relative price changes in favour of non-tradables, and external shocks under the form of exceptionally high prices for some agricultural exportables (e.g. coffee and cocoa).

2. Relative factor-intensity plays an important role in evaluating the costs of adjustment. It has several implications. First, a labour-intensive activity may have more difficulties in adjusting because of the possible rigidity of real wages. On the other hand, capital-intensive activities may be the ones which suffer the most from the policy of "cheap money" and over-accumulation of capital. These activities have to get rid of excess capital when it appears that the real rate of return is low in comparison with the real cost of capital. But the burden of adjustment can be transferred to other activities, as has been the case in many African countries.

It is likely that agriculture was not the main beneficiary of the former accumulation of capital, since agriculture is relatively less capital-intensive than industry (but, possibly, more than services).

The distribution of credit to agriculture is, on the whole, not greatly developed in African countries, either because the marketing costs of credit are high, or because the financial market is heavily dependent on public authorities, which prevent the development of credit facilities. Farmers get credit mainly for marketing their products. There is usually credit rationing, because the supply of savings is lowered by low interest rates and demand is high. The working of the political market, in a highly publicly controlled financial system, implies that urban borrowers have priority (this may also explain the relatively poor development of bank activities outside the main cities).

When there is a need for adjustment and when real interest rates have to increase, the low profitability of investment in industry makes itself felt. It

may have been further hidden by protectionist, subsidy and import-substitution policies. There is a risk of failure for industrial firms, with the consequence of possible social unrest. There is political pressure in favour of policies to support industrial firms and employment. In a context of global scarcity of resources, agriculture may not be the priority. This is quite clear in the case of Zambia, for example, where big firms have priority in receiving rationed foreign exchange.

In other words, we believe that growth and the improvement of the standard of living of African people depends mainly on the development of other activities (industrial or tertiary). However, this is not a reason for industrializing at all costs, as has usually been the case, since it implies wrong micro-economic decisions. In a context of excess demand for credits, and of an extensively publicly controlled financial system, there is credit rationing and politicization of investment decisions (similarly, human capital is shifted toward some privileged sectors which are not necessarily the most profitable; in case of failure, there is a risk of higher unemployment). If the rate of return of some investments unexpectedly falls below the real cost of savings, which represents a real burden for the whole economy, the nett return of some investments is negative. The political market works in such a way that part of the burden may be shifted to the politically less powerful sector, namely the rural sector.

Some of the present problems stem from the fact that illusory policies and signals have developed in the past. It is vital, therefore, to think about ways and means of preventing this from happening in the future. In any case, illusions cannot last. When problems arise, there is a risk that agriculture will suffer more than other sectors, due to asymmetries in the political market. Therefore, it is in the interest of agriculture if illusory policies in other sectors are avoided (low interest rate policies, protectionism for import-substitution, etc.).

Let us take an example and assume that there is a budget deficit and that, for reasons of macro-economic equilibrium, a stabilization programme, using a global approach, introduces an increase in taxes. However, there is a possibility that this tax may reduce the profitability of some activities and introduce new disincentives. The profitability of some activities may thus

become lower than the interest rate to be paid on former borrowings. To avoid the failure of some large firms, the government may introduce various protectionist measures or price policies which could be costly to farmers. A purely macro-economic approach may have adverse effects. Furthermore, it must be remembered that the relative protection of one sector implies the relative negative protection of other sectors.

Stabilization necessarily implies a transfer of resources, either because an expenditure-decreasing policy is necessary or because creditors have to be reimbursed, although the rate of return on investment is lower than the interest rate. In both cases, policy decisions are crucially important since the former excess demand usually came from a demand-expanding policy (money creation, financing of a budget deficit); and indebtedness is mainly caused by borrowing from the government or public firms. As neither the government nor public firms can fail, resources have to be found elsewhere. Agriculture is thus a potential victim.

Distinctions have to be made, however, inside the agricultural sector. Some large parastatals in agriculture are also responsible for huge amounts of borrowed money (and, in many cases, recurrent costs have been grossly underestimated or not anticipated).

It is the public authorities who are responsible for indebtedness and for adjustment. There is a risk that the burden of adjustment is not fairly distributed. It may not affect public firms and large private firms (owing to their political importance, for instance on the employment market), but it may affect small private firms and farmers. As regards the latter, a transfer of resources (i.e. a decrease in the profitability of their activities) may not take the form of failure, but the rather less visible form of a decrease in purchasing power. The real problem is an institutional one. The small farmer who has the status of an entrepreneur does not benefit from a contract giving him/her a real wage guarantee in advance, contrary to what happens with wage-earners in urban sectors. It means that the flexibility of incomes is higher in agriculture. Therefore, it is a temptation for any government, whenever it is necessary to take out some resources, to obtain them, more or less directly, from those places where the resistance is lowest.

It is necessary to distinguish between the cost of adjustment and the cost

of uncertainty. Contrary to what is often thought, we believe that African farmers react to price signals and, even more, that their behaviour corresponds, in very general terms, to what is described as rational expectations. Farmers do not react to instantaneous price signals, but, more broadly, to the information they receive and try to obtain concerning their expectations and their general interpretation of the phenomena. If they learnt from past experience that relative prices are very unstable, as was the case in the past decade, they might shift away from agricultural activities, where the risk of instability is greatest, or from activities where the cost of adjustment is highest. In that sense, there is not only the present cost of past macro-economic errors but, even, the future cost, which may slow down the process of agricultural development and the process of growth in general.

The effects of overvaluation. For various reasons, producers do not benefit completely from higher prices during a boom. In a recession, they suffer from the general situation and from a possible real appreciation of the exchange rate.

We have considered the impact of an overvaluation of the currency on relative prices of tradables and non-tradables. Now, the problem is to know to which category agricultural products belong. The elasticity of national demand may be higher for import-competing goods than for exportables (raw materials, export crops such as cocoa or coffee), which implies that overvaluation favours imports, without providing compensation in a higher demand for national exportables. Non-tradables may include subsistence crops. Real appreciation means that demand shifts from subsistence to imported rice or wheat. It creates a short-term loss and a long-term uncertainty for small producers of subsistence crops who have difficulty in adjusting.

Most African countries are producers of import-competing products in agriculture or industry. A real appreciation has a negative influence on the production of tradables; but is the relative effect higher on industrial or agricultural production? It is not quite clear how changes in real rates are reflected in changes in terms-of-trade between agriculture and industry.

Thus, Oyejide (1988) writes: "an appreciation of the real exchange rate

penalizes non-protected import-competing and exportable goods in the agricultural sector". This is true, but it remains to evaluate the relative penalization of:

- Agriculture vs. industry (or services);
- Various agricultural productions (e.g. food crops, imported crops, export crops);
- The total effect on agriculture (i.e., on the incomes of farmers, on incentives for growth, on long- and short-term changes in specialization).

Oyejide (1988) has calculated the nominal protection of agricultural products, adjusted for real exchange rate changes, for a number of African countries. He states that "substantial improvements in agricultural incentives were sharply eroded by real exchange rate appreciation between 1969-71 and 1981-83". Such a situation is interesting. However, a change in real rates cannot be considered as equivalent to a change in protection. Protection is meaningful only as a relative concept (e.g. relative protection of agriculture in comparison with industrial products); and the best way to assess it is through effective protection coefficients. Real exchange rate changes are concerned with changes in the relative prices between non-tradables, which is not the same. The important question is: the extent to which the relative (possibly negative) protection of an activity (e.g. agriculture) was reinforced or compensated for by changes in real exchange rates.

As an example, let us take a case where there are three commodities, an import-competing one, cereals (C), a non-tradable (NT) and an export crop (E). The relative protection of C is evaluated via the ratio of PC (price of cereals) in comparison with some index of PNT and PE. The change in real rates concerns the relation between an index of PC and PE in comparison with PNT. An assessment of the real exchange rate (if it is due to disequilibrium-generating monetary and exchange rate policies and not to equilibrium-generating real changes, resulting from changes in the conditions of production or in the structure of demand) means a relative disadvantage of C, in comparison with NT, but not in comparison with E. It would therefore be somewhat excessive to consider changes in real exchange rates as exactly equivalent to changes in protection and to present them as changes in

relative incentives. This means that it is impossible to draw any general conclusions, without qualification, as to the relative (positive or negative) protection of agriculture as a whole. The evaluation of possible effects of overvalued exchange rates on agriculture has to be worked out for every specific case. It must also be remembered that no one can claim to have a precise knowledge of equilibrium real exchange rates. This implies that it may be dangerous to use a macro-economic instrument such as the exchange rate to obtain desired changes in relative prices.

Adjustment and real shocks. A real shock, either internal or external, typically translates into a price change. This is the case, for instance, if there is a decrease in the world demand for a country's main exportable.

Ahamed (1986) writes:

External shocks have distributional implications. A real devaluation is a way to protect incomes in the tradable sector by transferring some of the income loss to the home goods sector. If the traded sector is mainly agriculture and the non-traded sector is protected (and energy-intensive) manufacturing, the effect will be magnified. Increased protection for manufacturing in many African countries since the oil price shock is a way to reduce the burden on non-traded manufacturing and shift at least part of it to rural producers of exports.

However, we should be reluctant to consider, contrary to Ahmed, that a general measure such as a devaluation can be used to solve a sectoral problem. The distinction between tradables and non-tradables is a useful one, but it would be dangerous to consider it in too absolute terms. The frontier between tradables and non-tradables is not perfectly rigid and there are a lot of ways which make possible a contagion of price formation mechanisms from one sector to the other. For instance, if wages in a tradable activity are artificially protected by a devaluation when the world price of the corresponding commodity is decreasing, there can be a contagion of wage rates to other sectors (e.g. non-tradables). The end result is a general rise in prices, without any gain for the exportable activity (the relative price of which goes back to its equilibrium value). Moreover, such a policy blurs price signals and puts a brake on adjustment decisions which are necessary

in the long-run. From this point of view, it may be preferable to have recourse to insurance-type solutions (stabilization schemes) rather than to a manipulation of macro-variables.

It would be illusory to look for a general theory of distribution effects. They are different in the short- and long-term; they depend on the specific characteristics of different activities, such as their factor-intensity, the type of relative price changes, the speed of adjustment and the rigidity of some prices or wages. Moreover, even if a general framework could be developed and generally accepted, it would be difficult to measure the precise characteristics in each given case. In general, all such measures have to be expressed in relative terms.

The effective protection coefficients express the relative protection of different sectors. If the nominal tariffs and the input-output tables are known, these coefficients can be easily computed. It is more difficult to compute relative capital intensity of different sectors, or relative speeds of adjustments. Agriculture as a sector covers many different activities with very different characteristics.

In such circumstances, the purpose of a theoretical framework is to help raise significant questions and define desirable policies from specific knowledge rather than to offer a definite instrument to be used in a more or less mechanical way.

THE IMPACT OF SECTOR-SPECIFIC POLICIES ON AGRICULTURE

It is now generally admitted that sectoral policies of most African countries, as well as those of many other less-developed countries, are explicitly biased against agriculture. The reason is ideological as it has long been considered that industrialization is the way to development. However, it would have been preferable to allow progressive and spontaneous development of industry, possibly supported by agriculture, through the transfer of savings and other resources from agriculture to industry (as was the case in European countries during the Industrial Revolution); or through a progressive expansion of activities from raw agricultural products to more and more sophisticated products and services. African governments, however, have usually embarked upon voluntarist policies of across-the-board industrial-

ization, supported by import-substitution policies and mainly indirect transfers from agriculture to industries and infrastructure (not to mention pure prestige investments).

PRICE POLICIES

Effective protection. From existing studies of effective protection, agricultural commodities have frequently had to bear negative protection, which reflects the bias in favour of import-substitution policy for industrialization. The concept of effective protection usually takes into account the tariff rates on various goods. However, a more extensive concept of effective protection can be developed, covering all possible relative price effects of economic policies. It is certainly impossible to take all policies into consideration and to evaluate the precise effect of many policies correctly. Anyhow, some very interesting attempts have been published by Anne Krueger, Maurice Schiff & Alberto Valdes (1988) under a World Bank research programme.

They make a distinction between direct policies concerning agricultural prices and indirect policies. The direct policies cover such things as nominal protection, and subsidies on inputs or credits. The list of policies to be retained is drawn from specific country cases. The indirect policies cover policies affecting the real exchange rate (assuming that it is possible to evaluate the equilibrium exchange rate) or the tax on agricultural production implicit in protection to industry.

Table 3, extracted from Krueger, Schiff & Valdes (1988) gives results of calculations made for 16 countries. For all the countries considered, total effective protection was negative. This was the case particularly for the African countries included in the study (Ghana, Côte d'Ivoire, Zambia) as well as Egypt. It is also clear, from these data, that the indirect effects have an order of magnitude similar to that of the direct effects.

These results include a number of factors which differ from country to country. Among the protectionist policies, it must be remembered that exports of agricultural commodities are frequently taxed. Export tariffs bring to the public budget a significant part of its resources. Given that tax administrations are not much developed, and that export taxes are relatively easier to levy than other taxes, there may be an element of rigidity in this

TABLE 3

Direct, indirect and total nominal protection rates of exported products

Country	Product	1975-79				1980-84			
		Direct (1)	Indirect (2)	(3)	Total (4)	Direct (5)	Indirect (6)	(7)	Total
..... (%)									
Argentina	Wheat	-25.1	-16.4		-41.4	-12.7	-36.7		-49.4
Brazil	Cotton	13.4	-31.9		-18.5	2.6	-13.7		-11.1
Chile	Grapes	1.0	22.4		23.4	-0.0	-7.3		-7.3
Colombia	Coffee	-7.0	-24.5		-31.5	-4.9	-34.2		-39.1
Dominican Rep.	Coffee	-14.9	-17.5		-32.4	-32.3	-19.3		-51.6
Egypt	Cotton	-36.3	-18.2		-54.4	-21.8	-13.9		-35.7
Ghana	Cocoa	25.6	-66.0		-40.4	34.0	-89.0		-55.0
Côte d'Ivoire	Coffee	-31.5	-32.6		-64.1	-25.2	-25.6		-50.8
Malaysia	Rubber	-25.2	-4.3		-29.5	-18.3	-9.5		-27.8
Pakistan	Cotton	-12.3	-48.4		-60.6	-7.3	-34.6		-41.8
Philippines	Copra	-10.7	-27.2		-37.9	-26.0	-28.3		-54.3
Portugal	Tomatoes	17.1	-5.3		11.8	17.1	-12.9		4.2
Sri Lanka	Rubber	-28.5	-34.6		-63.1	-31.3	-31.4		-62.7
Thailand	Rice	-27.7	-15.4		-43.1	-14.9	-19.1		-34.0
Turkey	Tobacco	1.8	-40.2		-38.4	-27.6	-35.3		-62.9
Zambia	Cotton	-13.4	-41.5		-55.0	-4.6	-57.1		-61.7
Average		-10.8	-25.1		-35.9	-10.8	-29.2		-40.1

Notes:

1. The Republic of KOREA and MOROCCO are not included as all their main agricultural products are imported.
2. TURKEY was a nett exporter of wheat in most years, while the PHILIPPINES was a nett exporter of rice in some years and in the DOMINICAN REPUBLIC, rice was not traded in some years.
3. The DIRECT Nominal Protection Rate is defined as the difference between the TOTAL and the INDIRECT Nominal Protection Rates, or equivalently, as the ratio of (i) the difference between the relative producer price and the relative border price, and (ii) the relative adjusted border price measured at the equilibrium exchange rate and in the absence of all trade policies.

Sources: Country studies: Argentina (A. Sturzenegger & W. Otrera), Brazil (J.L. Carvalho & A. Brandao), Chile (H. Hurtado, E. Muchnik & A. Valdes), Colombia (J. Garcia & G. Montes), Dominican Republic (T. Roe & D. Green), Egypt (J.J. Dohier), Ghana (D. Stryker), Côte D'Ivoire (A. Atsain, A. M'Bet & S. Ethouman), Republic of Korea (P.Y. Moon & B.S. Kang), Malaysia (G. Jenkins), Morocco (H. Tuluy & L. Salinger), Pakistan (N. Hamid & I. Nabi), Philippines (P. Intal & J. Power), Portugal (T. Josling, T. Finan & F. Avillez), Sri Lanka (S. Bhalla), Thailand (A. Siamwalla & S. Setboonsamg), Turkey (H. Olgun & H. Kasnakoglu), and Zambia (D. Jansen). (Table: Krueger, Schiff & Valdes, 1988).

respect. However, it must also be remembered that non-agricultural raw materials also bear export taxes (as is the case in Zambia). The protection coefficients are computed via comparisons between producer or consumer prices and border prices (adjusted for transport costs, storage costs or quality differences). Therefore, they take account of specific systems of price formation, such as those which depend on the existence of stabilization boards.

Farmers often benefit from subsidized (free or low priced) inputs, such as fertilizer, technical assistance, credit conditions, transport infrastructure, etc. In principle, these elements are considered in the computations quoted. However, even if a zero effective protection coefficient resulted from all these various influences, it would not mean that they do not create distortions in production, since the whole structure of incentives and price signals is distorted. The usual agricultural policies of African countries imply a centralization of decisions. Farmers cannot freely decide their cost structure and choices of techniques. Nor can they freely determine the diversification of their products according to relative prices. A part of the returns of smallholders is available for their subsistence needs. The disposition of the other part is determined by the macro-economic policies of the government. Agricultural production is thus partly determined by purely technical decisions and not by economic ones; this necessitates subjective choices and personal guesses concerning the future.

A significant part of production costs (e.g. irrigation programmes, marketing schemes or mills) has to be financed by the state. These projects frequently suffer from an insufficient funding of recurrent costs, which means a non-optimal use of resources. Better maintenance would be possible if individuals were given better incentives (user fees, private ownership, etc.). Computation of protection coefficients, although very useful in evaluating the effects of policies, may underestimate their real impact on agriculture.

Price stabilization systems. Stabilization schemes are fundamental elements of agricultural policies. In many African countries monopolist agen-

cies have the responsibility of "stabilizing" the prices of the main agricultural commodities and/or of marketing them.

The assumed role of such agencies is to diminish the uncertainty of unstable prices facing producers. However, the working of these institutions is either questionable or deeply harmful.

1. Price instability does not necessarily imply a similar income instability, as fluctuations in the quantities produced may compensate for changes in prices.
2. There is a risk of confusion between short-term price stabilization and long-term trends. It must be borne in mind that's in the very long-term, the relative prices of agricultural commodities may be declining, as has been convincingly underlined by Julian Simon (1981). From this point of view, the current idea, according to which, the development of African countries has to be based on agricultural products, may be as dangerous as the former one, according to which, any sort of industrialization was desirable.
3. Public monopolies are not the only possible solutions for price stabilization. Various insurance schemes may also be considered.
4. From the past experiences of several African countries, marketing boards have not always played their assumed role, but have often been similar to tax collectors, extracting resources from farmers and using them for state determined purposes.

The implicit assumption of most policies is that individuals, especially small farmers, are unable to forecast the future, to invest, to insure themselves, etc. This assumption of irrationality is unwarranted. The real workings of marketing boards have introduced more instability than would have been the case under a system of private property rights. As is exemplified in Côte d'Ivoire, an abundance of funds in the period of high agricultural prices gave the illusion of prosperity. These funds were used mainly for investment, the return of which happened to be much lower than expected; they therefore induced a policy of large indebtedness.

The difficulty of informing farmers about prices exists. Many may also lack the necessary knowledge about marketing mechanisms and production

choices. However, learning by experience may be the best education. If it is advisable for farmers to enter the process of exchange through markets, the best way is not to oblige them to sell their products to a marketing board at non-negotiable prices, nor to provide them with inputs, even if they are free.

It is worth trying a new approach, based on the assumption that farmers resemble men and women everywhere, and are at least as imaginative (or unimaginative!) as bureaucrats, and as capable of discovering information and innovating. As stressed by Sowell (1980) so-called "primitive" knowledge is very diversified and sophisticated. Progress is often made possible by allowing people to save the amount of knowledge they need, the price system being one such vehicle of synthetic information. By substituting centralized decisions made from above for free decisions made by farmers, a cultural and paternalist model may be being implemented, according to which there exists a sort of primitive mentality unable to make economic decisions.

It is difficult to determine the best way toward African development. Forced industrialization has failed and agriculture does not seem all that promising. However, such observations may be too general. Instead of speaking of sectors, we might speak of specific activities and, even more, of people. According to existing incentives, any individual may shift from an agricultural activity to a service activity or from a traditional export agricultural activity to another, more sophisticated one. Current policies make people heavily dependent on existing public institutions. As the public sphere retains, directly or indirectly, a significant amount of their earnings and provides them with part of their resources, the amount of resources which they are free to use, beyond subsistence needs, is rather limited; this makes shifts in activities difficult. Past policies made it more difficult for farmers to save and invest, either in new, more rewarding agricultural activities, or in other activities (trade, first transformation of agricultural products, etc.). It is often assumed that African countries suffer from very low savings. In fact, people, even at a low-income level, are encouraged to save whenever the expected rate of return is high. This can be illustrated by the experience of small countries in southeast Asia, which were poor

agricultural countries a few decades ago but which were able to develop all sorts of activities without significant foreign aid or extensive external borrowing.

Price incentives. It is a common assumption that African farmers are not very responsive to prices. From this it follows that changes in price policies are not urgent and that agricultural improvements are mainly technological. Assuming a low degree of consciousness on the part of farmers, it then follows that the best agricultural policy consists of distributing various inputs to farms at low or zero cost, or financing technical assistance programmes. Most aid programmes are inspired by such views.

However, it could equally be assumed that farmers are rational and that they are able to make significant economic choices. This is certainly consistent with the usual (and fruitful) assumption of economic theory; namely that all individuals are rational (which does not imply that they are perfectly informed). It is also consistent with empirical evidence drawn from field work and from theoretical and empirical research.

Price incentives play two important and different roles:

- They induce shifts between different agricultural activities that may be more rapid than is usually considered;
- They induce shifts of workers between agricultural and other sectors or, more generally, between rural and urban areas.

This latter effect has been emphasized by Schiff (1987). According to him: the massive outmigration to urban areas and consequent decline in agricultural output in sub-Saharan Africa relate to policies which have turned incentives against the agricultural sector. That implies a high elasticity of supply of aggregate output through the impact of the terms of trade on the intersectoral allocation of resources in the long run.

Such an outmigration creates a sort of vicious cycle, since newcomers to cities contribute to the expansion of the politically vocal category. Even if the rate of unemployment is very high, as is the case in most big African cities, workers are nevertheless attracted to urban areas by relative price and income considerations. From agriculture, they receive an income which is low but more or less certain; in cities, however, income may be more

uncertain (because of periodic unemployment), but it has a higher expected value, especially when minimum wage laws and welfare benefits exist. Moreover, consumption goods are frequently subsidized. The more people benefit from such artificial increments of their purchasing power in cities, the more reluctant are governments to modify price policies, since they fear social unrest, even though these policies become more and more costly. Furthermore, such a situation may also affect agriculture because those who migrate and who are prepared to take risks are invariably the most active ones. A rise in agricultural productivity may thus be slowed down or prevented.

OTHER POLICIES

Many other policies may have an impact on agriculture. It is not our intention to study all of them comprehensively, as they may not have a direct connection with agriculture or stabilization itself. Some of them, however, ought to be given consideration in the evaluation and design of stabilization programmes.

Among such policies we would like to stress the role of credit policy. Because savings are generally low in agriculture, credit could be considered an important substitute for voluntary savings by farmers. However, agriculture does not benefit much from the provision of credit for two main reasons:

- The first, well-known reason is the particularly high cost of credit distribution in rural areas. The profitability of credit is low or even negative, as farmers generally borrow small sums of money, which are dispersed over large territories, and the degree of risk of credit is high. In most countries, specific credit institutions have been created by the governments to try to cope with these problems.
- The second reason is more general. In many countries, especially when inflation is high, monetary authorities maintain low real interest rates. In such cases, the demand for funds is high and the supply is low, so that there is credit rationing. As we know, on the political market, agriculture is not generally considered a priority sector and credit tends to be distributed to large firms, especially public firms. A policy fa-

vouring the development of capital markets and an increase in savings (for instance through tax reform) would be in the interests of agriculture.

Finally, we ought to give much more consideration to another element which is not directly linked with either macro-economic policies or current agricultural policies, but which is of the utmost importance for growth in agriculture, namely property rights of land. In Africa, private property rights are neither well defined nor protected. Land is sometimes considered to be public property, which may be granted on concessionary terms to farmers, but which cannot be sold or even rented. This institutional situation not only prevents an optimal allocation of resources, but diminishes the incentives for farmers to invest. Stabilization and structural adjustment programmes ought to introduce provisions to improve this situation.

OVERALL VIEW ON STABILIZATION PROGRAMMES

As we have seen, stabilization programmes necessarily include a tighter fiscal policy, as a priority objective, for two main and converging reasons. There is a need to reduce the budget deficit, which played a major role in the former disequilibrium, and to reimburse an external debt which is mainly a publicly guaranteed debt. Under such circumstances, it is doubtful that the government would decide simultaneously to abandon a long-lasting sectoral policy biased against agriculture. For instance, as export taxes on exportables (quite often agricultural products) are an important component of total public resources, it is unlikely that the government will choose to diminish the negative protection of agriculture, although in some countries there has been a tendency in this direction in past years.

Similarly, as the stabilization plan is likely to decrease the purchasing-power of the population, just because resources have to be diverted from internal absorption to exports, any government quite naturally fears social unrest. Governments thus hesitate to raise producer prices at a time when they are launching stabilization plans. It is typical that the Zambian government simultaneously halted the policy of price liberalization and severed links with the IMF. In spite of the affirmed targets, it is quite clear that the aim of the new policy is to avoid political problems with the more vocal, namely urban, citizens.

The main feature of agricultural policies in African countries is that centralized decisions by the governments have gradually replaced decentralized decisions by the farmers. Thus, abandoning former policies, adverse to agriculture, does not imply a mere "technical" problem of changing price policies, but a complete restructuring of public resources and expenditures, which governments are not inclined to accept in a period in which they are under particular pressure.

However, it would be wrong to attribute to stabilization plans direct adverse effects on agriculture and for that reason to refuse or postpone them. The bias against agriculture is a consequence of a deliberate and, sometimes, already long-established policy. Such policies may even have contributed to the development of the business cycle and, therefore, to the need for stabilization. This is exemplified by the case of a country like Côte d'Ivoire. Avoiding or postponing stabilization policies is pure illusion.

Both the import-substitution and industrialization policies and centralized agricultural policies have failed. If present stabilization plans are not to be mere short-term concessions to a more balanced view of the economy, then structural reforms must be seen in a longer-term perspective. Schemes developed by the IMF, as well as by many other international and national agencies, aim at bringing financial support under the pretext of balance-of-payments adjustment or debt rescheduling. As we have already explained, the real problem is more internal than external. Financial support from outside should be used to help solve structural problems, namely the change to a more decentralized agricultural system and the abandonment of artificial industrialization.

We have already stressed the existence of two diverging views about achieving agricultural progress and we consider that the liberalization, at least partial, of agricultural markets ought to be given priority. It would be justified to find a partial compensation, from the point of view of the public budget, by charging farmers for the real cost of inputs.

We must try to get a better evaluation of costs and benefits of policy choices, not only in agriculture, but in all economic sectors. Thus, it is often said that governments have helped developing agriculture by financing infrastructure, transportation, marketing boards, or by the introduction of

new agricultural techniques, sometimes out of sums obtained from marketing boards. Let us consider transportation, for example. Costs could be covered by a special fund that receives taxes from gas consumption or from tolls. New technologies could even cover costs by user's fees. Studies have shown that in the Sahel, farmers are ready to pay for veterinary services, which is interesting since it is quite often claimed that such services are typically public goods.

We should distinguish different cases and not put all types of farmers into one single category under the heading "agriculture". There are remote areas where low-income peasants live with traditional techniques with few possibilities of changing their habitual ways. Improvements which can be obtained from a change of system might be marginal, at least in the short term. Their problems are of a humanitarian nature. Although national or international resources may not be sufficient to offer them a decent life, the partial solution of their problems comes essentially from transfers. At the other extreme, there are large farms with efficient techniques and an extensive use of capital. They need what all modern producers need: freedom of decision, liberalized markets and stable institutions. These producers can provide an increasing base for taxation.

There is another category which is potentially the most important for the development of African agriculture; these are "emerging farmers", who need proper incentives. Public distribution of inputs, public and monopolistic marketing boards prevent them from experimenting, from acquainting themselves with the workings of markets, from shifting toward new activities and, possibly, from associating other activities with their agricultural activity (e.g. commercial and first-transformation activities). These people would be able to look for new techniques, to learn from the experiences of others, etc. They would certainly accept paying user's fees for their inputs, even for those which are presently offered as public goods, such as roads and utilities.

According to IMF officials, the basic philosophy of the IMF and of the World Bank is misunderstood. It aims at changing the terms of trade in favour of agriculture, especially by suggesting more realistic exchange rates in countries where the currency is overvalued, which makes agriculture

“uncompetitive”.

On the other hand, agriculture ought to benefit from a transfer of resources, obtained through various channels:

Credit policy. The IMF, in stabilization programmes, proposes ceilings on credit, but agriculture receives preferential treatment, for instance for crop financing. Interest rate policy is differentiated according to sectors, so that the cost of borrowing is lowered for farmers. Usually, banks charge a higher margin on credits to agriculture. The IMF aims to reduce these margins.

Budget policy. As regards taxation, the typical IMF programme argues for minimal taxation on the agricultural sector. On the expenditure side, programmes from the World Bank and the IMF favour investment in the agricultural sector. IMF officials say that exchange rate, credit and budget policies are designed not to harm agriculture, even in the short term.

There is no reason for doubting that IMF and World Bank officials consider that agriculture has a primary role to play in African development, and that the officials are trying to design programmes to improve the situation of this sector.

Many World Bank structural adjustment programmes aim at introducing better incentives in agriculture. However, it is regrettable that IMF targets in stabilization programmes are not more explicitly stated, due to its pronounced taste for secrecy. Moreover, being mainly concerned with so-called “balance-of-payments problems” and macro-economic equilibrium, stabilization programmes do not take account of all the specific costs borne by farmers, which we have stressed in the above analysis.

It is our conviction that the main problems are institutional ones, and not just problems which can easily be solved by some general macro-economic model. Macro-economic choices and errors have had dramatic consequences on the development of most African countries. It may not be worthwhile, therefore, to study African economies, to launch programmes or to build models if the basic institutions themselves are not first remodelled.

The development of agriculture and the development of any country imply fundamentally a restoration of property rights, such as recognizing land

rights and the rights of peasants to resources (no excessive implicit or explicit taxation through stabilization measures, exchange controls, industrial protection, etc.).

It is also necessary to give stable signals and credible announcements to farmers about policies to be pursued; instead of embarking on fluctuating "fine tuning" policies, particularly as adjustment may be slower in agriculture than in other activities.

REFERENCES

- Ahamed, Liaquat.** 1986. Stabilization policies in developing countries, *Research Observer*, p. 92. January.
- Garrison, Roger.** 1978. *Austrian macro-economics: a diagrammatical exposition*, Menlo Park Institute for Humane Studies.
- Hayek, Friedrich.** 1931. *Prices and production*, London.
- Hayek, Friedrich.** 1933. *Monetary theory and the trade cycle*, London.
- Heller, Peter S., Lans Bovenberg, A., Catsambas, Thanos, Chu, Ke-Young; & Shome, Parthasarathi.** 1988. The implications of fund-supported adjustment programmes for poverty. *IMF Occasional Paper*, 58. Washington D.C..
- IMF.** 1987. Theoretical aspects of the design of fund-supported adjustment programmes, *Occasional Paper* 55,.
- Khan, Mohsin S.** 1987. *Real exchange rate behaviour in developing countries*, (Paper prepared for the Arab Monetary Fund Seminar on Exchange Rate Management in Arab Countries), Abu Dhabi.
- Khan, Mohsin S.** 1987. Macroeconomic adjustment in developing countries: a policy perspective, *Research Observer*, January
- Krueger, Anne O., Schiff, M. & Valdes, A.** 1984. *A comparative study of the political economy of agricultural pricing policies*, World Bank, Washington D.C.
- Krueger, Anne O., Schiff, M. & Valdes, A.** 1988. *Measuring the impact of sector-specific and economy-wide policies on agricultural incentives in LDCs*, World Bank, January. Washington, D.C..
- Krueger, Anne O., Schiff, M. & Valdes, A.** 1988. *Measuring the impact of sector-specific and economy-wide policies on agricultural incentives in LDCs*, World Bank, January. Washington, D.C..
- Lipton, M.** 1987. *The limits of agricultural price policy: which way at the World Bank?*, Department of Economics, European University Institute, Florence.
- Martens, A.** 1987. *L'ajustement structurel en vitesse de croisière au Sahel?*, Club du Sahel, OCDE, Paris.
- Nana-Sinkam, Samuel O.** 1987. *General framework for an analysis of economic adjustment programmes in Africa (rural sector)*, *International Conference of the United Nations Economic Commission for Africa*, Abuja.
- Norton, Roger D.** 1987. *Agricultural*

- issues in structural adjustment programmes, FAO Econ. and Soc. Devel. 66. Rome.
- Oyejide, Ademola T. 1988. *Effects of trade and macro-economic policies on African agriculture*, p. 17.
- Quirk, Peter J., Christensen, Benedicte V., Huh, Kyung- Mo & Sasaki T. 1987. Floating exchange rates in developing countries, *IMF Occasional Paper* 53.
- Sarris, Alexander H. 1987. *Agriculture non-agriculture interactions and the impact of stabilization and structural adjustment programmes*, FAO, Pol. Anal. Div., Rome.
- Sarris, Alexander H. 1987. *Agricultural stabilization and structural adjustment policies in developing countries*, FAO Econ. and Soc. Devel. 65. Rome.
- Schiff, M. 1987. A structural view of policy issues in African agricultural development: comment, *Am. J. Agric. Econ.*, p. 386.
- Simon, J. 1981. *The ultimate resource*, Princeton.
- Sowell, T. 1980. *Knowledge and decision*, New York.
- von Mises, L. 1934. *The theory of money and credit*, London.
- von Mises, L. 1978. *On the manipulations of money and credit*, New York.

Part 2

Case-studies

3. Côte d'Ivoire: transfers from agriculture and the business cycle

Côte d'Ivoire has long been celebrated for its economic performance in a slow-growing sub-Saharan Africa. This myth has now faded away and, with it, the hopes of its inhabitants for a better life. The case of Côte d'Ivoire is worth examining at some length since it is a good example of the business cycle theory presented in Chapter 2. Agriculture, particularly the two main export commodities, coffee and cocoa, has played a major role in what evolved during the 1970s and the 1980s. More precisely, the huge fluctuations in world prices of these commodities can be considered important real shocks in the Ivorian economy. However, these shocks are only part of the story. The main responsibility for past instability has to be attributed to errors in economic policy.

AGRICULTURE IN CÔTE D'IVOIRE

Côte d'Ivoire has an important and diversified agriculture. It mainly exports cocoa, coffee, wood, palm tree products, cotton and pineapples. Production of rice for local consumption has been encouraged in recent years. In the present report, we shall consider mainly cocoa and coffee because of their relative importance in the Ivorian economy and because of their importance in recent economic events.

There are three main agricultural zones: in the South, cocoa, coffee, palm trees, heveas, wood and coconut trees. A parastatal, the *Société d'Assistance Technique pour la Modernisation Agricole de la Côte d'Ivoire* (SATMACI), is in charge of this area, especially as regards technical assistance for coffee and cocoa, but only 20 percent of the peasants benefit from these services. In the Centre and the North for a long time only food crops have been produced. People from these two regions migrate to the South. A policy of

regional development has been introduced with new activities, such as paddy or cotton growing. In order to diversify production, palm and coconut trees were introduced in the 1970s (*plan cocotier et plan palmier à huile*) by a public firm, *Société pour le Développement et l'Exploitation du Palmier à l'Huile* (SODEPALM). Public development institutions are favouring village plantations.

Coffee production is carried out by small farmers who cultivate between three to five hectares and produce simultaneously coffee, cocoa and cotton, which means that some substitution is possible between the various crops. The growing of cocoa and coffee began in the 1950s by peasants who wanted to supplement food crops with more marketable products. It is interesting to note that these peasants want to capitalize and care about inheritance. These developments occurred without any increased indebtedness by the peasants, who proved that they were able to make economic choices between food and export crops. These facts have to be remembered when considering the highly interventionist policies of more recent periods (and their negative effects on agriculture).

There has been a rapid increase in the consumption of rice, since people tend to eat more rice in cities than in rural areas, and the urbanization rate in the country is rapid (about 6-7 percent a year). Paddy production has also increased rapidly, reaching 565 000 tones in 1986.

During the first phase of agricultural development, agriculture was undertaken extensively and was not very efficient, but the guaranteed price encouraged farmers to invest in it. Those who tried to borrow and to hire labour had to stop. The farmer was mainly self-reliant.

During the second phase, in the 1970s, farmers diversified production. Technocrats tried to accelerate agricultural development and the state intervened massively, creating several public enterprises in the agricultural-industrial sector (Palminindustrie, SODEPALM, etc.).

Lessons have now been drawn from past developments. It is widely admitted that agriculture has to be a private activity and that the government's role is mainly in research, experimentation and spreading of knowledge.

There are a growing number of private producers of palm trees or heveas.

TABLE 4
Côte d'Ivoire: stabilization operations of the CSSPPA, 1975-85

	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985
 (% of GDP)										
Deficit (-)/surplus of stabilization operations	2.8	4.8	15.5	10.0	7.9	3.9	1.3	2.7	3.7	9.0	9.7
Coffee and cocoa	2.5	5.0	15.4	10.4	7.9	3.8	1.4	2.7	3.8	9.2	9.8
Other	0.2	-0.2	0.1	-0.3	-0.1	—	-0.1	—	-0.1	-0.2	-0.2

Sources: Data: the Ivorian authorities and staff estimates.
Table extracted from Schiller (1988).

These new producers, who are frequently of urban origin (for instance civil servants or members of the liberal professions), do not borrow money, but are self-financing (which makes it evident that savings exist and can be directed toward agriculture).

In principle, the land belongs to the state, but customary rights still persist. The state gives land on lease to individuals who intend to exploit it. But there is no land market. A reform of the traditional law would certainly be necessary to provide better incentives and a better allocation of resources. Due to the vagueness of property rights, young peasants who cultivate newly exploited lands are not certain to be allowed to stay. If a piece of land is not cultivated and a farmer would like to develop it, he or she can obtain a long-term lease (*bail emphytéotique*) from the Ministry of Agriculture. As regards forests, concessions are granted on areas of about 5 km². This does not allow an optimal management of forests. Less than one percent of the total land in Côte d'Ivoire is officially considered privately owned.

Usually, parastatals in agriculture have been created without any compensation given to those who owned the land according to the traditional law. In traditional law, the land is owned by families, who never sell it, but may lend it. Thus, migrants from North to South can get concessions to use traditional land.

Agricultural policy in Côte d'Ivoire is very interventionist. The govern-

ment is in charge of much marketing, technical assistance, provision of inputs, transformation of agricultural commodities, etc. International donors may reinforce this tendency by financing big programmes that increase the number and power of parastatals. From this point of view, aid ought to be radically reallocated.

Parastatals specialized in technical assistance give free services or sell them to marketing organizations. Not all peasants benefit from these services however. This makes us wonder what would happen if the farmers had to pay for these services. It is generally supposed that payment of services could be acceptable to peasants or villages to get technical assistance from a private firm. Such an experiment is being conducted in Bouaké for the mechanization of agriculture.

The Ministry of Rural Development is in charge of food crops and rural promotion. Several public companies are in charge of technical assistance and rural development. Some other companies are in charge of selecting seeds, clearing soils, preparing the land, building dams, providing machinery or new technology. A specific administrative institution selects seeds and gives them to the *sociétés de vulgarisation*, which give them to the peasants. It is expected that the system will become private. Contracts have already been made with some peasants to produce seeds; and presently they produce about 50 percent of seeds required. Under the Ministry of Commerce, the OCPV helps marketing of food crops, but it does not intervene in price formation. However, both for food and export crops, the margin of free choice remains very narrow for Ivorian farmers, who depend heavily upon governmental institutions for the choice of techniques, marketing, or the determination of prices.

It is forecast that in 2010, there will be 30 million inhabitants in the Côte d'Ivoire (three times more than now) and that 75 percent of the population will be urban. There will certainly be problems of land scarcity and agriculture will have to be intensive. Surpluses will have to be obtained from agriculture to develop industry.

TRANSFERS FROM AGRICULTURE AND PRICE POLICY

Apart from public transfers from government to agriculture in the form of

subsidies (for seeds, fertilizers, technical assistance, infrastructure, etc.), there are two main types of transfer in the country:

- Transfer from agriculture (mainly coffee and cocoa) to other sectors;
- Transfer from consumers to agriculture via a high producer price for rice (compared with imported rice).

Because of its importance in the Ivorian economy, we shall deal mainly with the first category.

From the outset of independence, Côte d'Ivoire looked for diversification of its production. In order to finance this process, it was felt that a fund ought to accumulate resources from existing agricultural activities and to use them to push toward diversification. It was also felt that this fund could play a stabilizing role. If ever the accumulated resources became sufficiently important, it would be possible to decide on prices rewarding to producers, when the world prices were low.

The CSSPPA (*Caisse de stabilisation et de soutien des productions agricoles*) is a parastatal in charge of stabilizing producer prices of the country's two main export commodities, coffee and cocoa, as well as cotton, sugar and rice (*the Caisse de péréquation* gets profits from rice imports and the CSSPPA pays for losses from local rice production). It is a public institution (*société d'état*), under the supervision of the Ministries of Commerce and Agriculture.

This fund does not buy and sell commodities, but determines the producer price, fixed by government decree, and export prices (f.o.b. and c.i.f. for each place of delivery), by including marketing costs, export taxes and marketing profits. Contrary to most other (English-speaking) countries, where marketing boards exist, all marketing is carried out by private traders who have to be officially authorized. They buy the commodities from the producers at official prices and transport and export them. When they have an export contract, they call the CSSPPA for an authorization to sign it. The transportation and processing costs are evaluated econometrically and the CSSPPA guarantees the c.i.f. price. It pays private exporters or takes from them any discrepancy between the actual sale price and the guaranteed one. Such a system gives exporters a situation rent and does not induce them to maximize sale proceeds.

Producer prices are the same all over Côte d'Ivoire, even for distant producers. This policy is certainly not optimal from the point of view of economic efficiency. However, it corresponds to the will of the Ivorian authorities to promote regional development. According to them, this policy implies a feeling of national solidarity and its cost is not sufficiently high to justify a drastic change.

To determine producer prices of commodities, the CSSPPA considers several criteria:

- its financial resources;
- market forecasts concerning future possible world prices and the price of the dollar;
- production costs. These are evaluated from computations made by research centres. (They do not know the cost of investments, but it may be even more difficult to give a reliable evaluation of the "normal" labour costs of small independent producers.)

This process is debatable, since it considers that objective costs exist and have to be covered. Producers ought to evaluate alternative profitability of different production activities and try to get the best return for their labour and investments.

Until 1987, the CSSPPA obtained profits (see Table 4), which means that it did not distribute to producers the full amount of resources obtained from exports. The profits were particularly important at times when world prices were high, as in 1977 and 1978, when profits reached the exceptional amount of 15.5 percent and 10 percent of GDP (the 1984 and 1985 figures, namely 9 percent and 9.7 percent, are also worth mentioning).

Normally, a stabilization fund ought to invest its resources in profitable and not too risky investments, in order to be able to pay back producers in periods of low world prices. The Ivorian authorities did not reason in this way. They just considered the huge sums retained by the CSSPPA as money to be used at their discretion. The working of the CSSPPA can thus be interpreted as partial confiscation of resources from agriculture.

Figure 9 (Schiller, 1988) gives the evolution of shares between production costs, marketing and export costs, export duties and stabilization margins in the total sale price of cocoa and coffee. As can be seen, from 1975 to 1985

the major part of the sale proceeds was confiscated by the state, either by the stabilization margin or by export taxes.

From the CSSPPA's legislation, 40 percent of surpluses must finance development projects. In fact, "the bulk of the surplus has either been transferred to the Treasury or other public sector agencies, or has been spent by the CSSPPA on behalf of the Government".

Thus, the general budget (and more specifically the public investment budget) receives additional resources from the CSSPPA. The CSSPPA also finances technical assistance organizations (*sociétés d'encadrement*), as well as schools, electricity, roads in rural areas, fertilizer, insecticides, land improvements and some industrial projects (e.g. for sugar). It is quite evident that some of these investments have been prestige investments with low profitability (e.g. over-sized highways).

In the future, large producers, who were not in favour of the creation of the CSSPPA, may call for a change in the system, since they prefer to export by themselves and to decide on how to use the proceeds. In fact, the selling policy of the CSSPPA is not very sophisticated, since it does not intervene in commodity-forward markets, nor does it try to cover its operations in the forward exchange market.

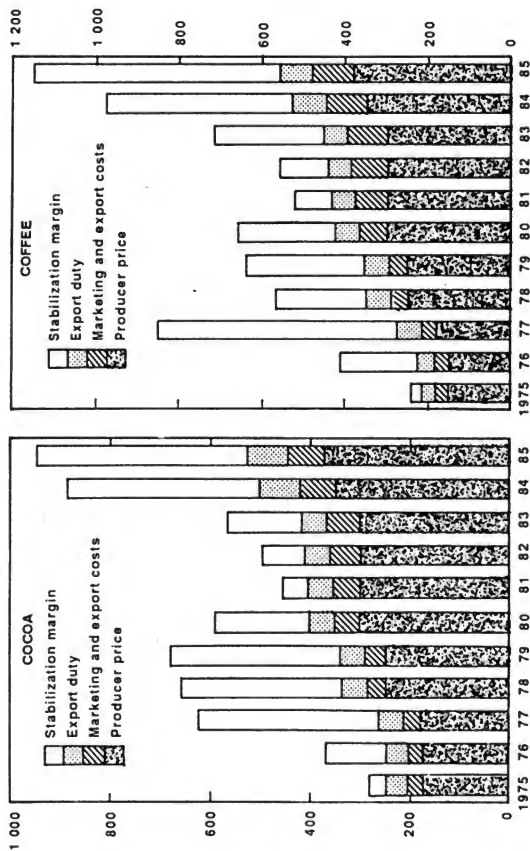
In 1975, the production of coffee in Brazil suffered from severe drought and the price of coffee increased steeply until 1977 (see Figure 9). The CSSPPA got very large surpluses and Côte d'Ivoire launched a huge investment programme.

Thus, important resources have been shifted from agriculture to other sectors because of the intervention of the CSSPPA and because of export taxes; however, investments have had an effect on infrastructure from which agriculture has partially benefited. Moreover, it was forecast at that time that the favourable situation, due to the high prices of coffee and cocoa, would last, making it possible to borrow and to reimburse with future resources (see section on "The business cycle").

Apart from errors in forecasting, there was some confusion as to the exact distribution of responsibilities. As regards the CSSPPA, if its role was to be that defined in the statute, namely stabilizing prices over time, it had to be considered as the owner of resources (on behalf of producers); this meant

FIGURE 9

Distribution of export receipts from coffee and cocoa, 1975-85 (CFA francs/kg)



Source: Schiller, 1988.

that it had to decide how to invest its (temporary) profits in order to be able to pay back money to producers when the prices decreased. The actual role of the CSSPPA was to be a sort of tax administration, collecting resources from people who appeared to be wealthy (due to some external shock), dispersed and politically non-organized.

Windfall gains from high prices could have been "distributed" according to three different schemes:

1. Directly to producers. Many people, especially officials, believe that the gains would have been spent on consumption goods. However, useful lessons could have been learned and large public borrowing avoided;
2. Through the public budget, either directly (taxes) or indirectly (through the *Caisse*, as has been the case);
3. Accumulated by a stabilization institution, independent of the state. In other words, the resources from coffee and cocoa belonged to producers and were not to be distributed. As producers owned the resources, they should keep their property, even if part of the resources were accumulated for stabilization reasons. Producers could become shareholders of the stabilization institution or they could freely adhere to various institutions in charge of "price insurance" which could invest in agriculture or other activities.

As regards food crops, only two (rice and maize) have guaranteed producer prices. However, an official consumer price exists only for rice. The Ivorian policy concerning rice is quite different from that of coffee and cocoa. *Caisse de péréquation* is in charge of providing Côte d'Ivoire with the main consumption products, such as rice. It has a monopoly on marketing rice after it has been transformed from paddy into rice.

Rice is subsidized by the state. Imports are considered as additions to local production. The producers get free inputs and the government pays for transportation in order to have a uniform price. The consumer price currently is CFAF 160/kg, for any quality and in any place. However, luxury quality rice benefits from free marketing, but with an import quota. Local production is more expensive than imported rice (at the current exchange rate). The benefit obtained by the *Caisse de péréquation* from imports

allows it to pay for local production, but the price of imported rice is increasing, and the *Caisse* is risking failure. However, an increase in the world price of rice would make local rice more economically worthwhile.

From a production of about 500 000 tonnes (which was about the quantity produced in 1985), about half is consumed by producers, and about 250 000 tonnes are marketed. More than half the quantity of rice delivered by factories is freely sold by private traders. The other part is sold at the guaranteed (1987) price of CFAF 160. The factories get paddy at a price of CFAF 95 and are obliged to sell rice at CFAF 147. As they obtain 0.63 kg of rice out of 1 kg of paddy, and the processing costs are about CFAF 30, the cost of 1 kg of rice produced by factories is about CFAF 210, i.e. CFAF $95/0.63 \text{ kg} + \text{CFAF } 30$. The state has to pay for the difference, between CFAF 147 and 210.

Under existing conditions, Côte d'Ivoire does not appear to have a comparative advantage in rice. However, a large producer we met is convinced that rice production in the country could be profitable without any public subsidy, and he even believes that the existence of a guaranteed price prevents producers from looking for better methods of production and a better allocation of land. He gets a production cost of CFAF 50/kg for paddy, whereas the state guarantees a producer price of CFAF 95/kg.

The working of the milling system is questionable. Without state subsidies, the miller would lose money. Most mills have been built by the state, but management is private. There are no depreciation allowances, as capital appears to be free. Mills are obliged to buy all the paddy offered them, but they are not obliged nor induced to collect it. The mills have been created randomly and their geographical dispersion does not correspond to the needs of the producers.

The World Bank, using comparative advantage considerations, wanted Côte d'Ivoire to import rice and to produce coffee and cocoa in 1974/75 and 1975/76. But even now, local production of rice, although it is of a better quality than imported rice, seems to be a waste of resources. A change in the real exchange rate may, however, alter the perspectives, as would a steady increase in the world relative price of rice.

The complex agricultural price system in Côte d'Ivoire raises several

problems. There are general transfers to and from agriculture. There are distribution effects inside agriculture (e.g. between coffee/cocoa and rice, although these productions are not necessarily in the same areas). It is difficult to understand the logic (apart from regional policy considerations) of a system which gives incentives for rice production and disincentives for the production of coffee and cocoa.

In the third structural adjustment programme, the World Bank was in favour of suppressing all agricultural production subsidies and it disagreed with the government. As we have just seen, production of some crops, such as rice, benefit from subsidies. Production of other crops also benefit from subsidies, for instance, through the free distribution of fertilizer and technical assistance, although only a certain proportion of farmers can obtain them. Free inputs are provided for cotton. The government wanted to introduce and develop cotton production, along with coffee and cocoa, to increase agricultural diversification. The CSSPPA has used resources from coffee and cocoa to subsidize cotton.

PRICE INCENTIVES

According to Ivorian officials, producers behave passively, just wanting security. They believe that peasants will not increase production if producer prices are higher. Until now the objective has been to maintain a slightly increasing floor price and to avoid, if possible, any decrease in prices. It is considered preferable not to have too rapid an increase in prices, since villagers would spend everything on feasts.

This commonly held idea, that production does not respond to price incentives, is wrong. Thus, in 1981/82, the price of paddy fell from CFAF 65 to CFAF 50 and production fell: there was a transfer from rice to cotton. As cotton seed is free, the shift to cotton in 1981/82 was easier and rice was imported. Similarly, the price of paddy increased 78 percent in 1973/74; production increased 44 percent between 1970-73 and 1975-78 in areas benefiting from technical assistance. In other areas, the price elasticity was estimated to be equal to 0.55 in 1984/85 (computations from the Ministry of Rural Development).

From computations made by the World Bank, the short-term price elas-

ticity is about 0.3 or 0.4 for coffee and cocoa. The long-term price elasticity (taking account of the decision to plant new trees or to replace old ones) is between 0.9 and 1.

The price responsiveness of coffee production seems well confirmed by available data. However, the short-term harvesting effect looks predominant as compared with the long-term planting effect.... For cocoa, the price effect is much less significant than for coffee. (Berthelemy & Bourguignon, 1987.)

Even if it seems true that farmers are able to shift from the production of one product to another according to relative prices, it could be said that this does not imply a similar response, in the case of a change in the relative prices of agricultural commodities and other commodities. However, in Côte d'Ivoire at least, individuals have not been reluctant to shift to other agricultural activities, whenever it appeared profitable. There may be an active agricultural tradition which makes such shifts acceptable and introduces a degree of flexibility into the economy.

Some researchers in the Ministry of Rural Development do not share the official view and believe that price incentives are not sufficient. They think that if prices were higher, the peasants would not necessarily spend more on technical innovation. Therefore, it would be necessary for the government to undertake technical improvements.

At the present time, it seems that no agricultural production is profitable. As profitability of other activities also seems low, it indicates that the non-profitability of agricultural production is not a relative price problem (in comparison with, for example, industrial products), but a problem of overall "competitiveness" (i.e. a problem of overvaluation of the currency). A devaluation might be considered necessary. A second-best solution would be to subsidize exports and to tax imports. But such a solution is costly to implement and cannot work perfectly.

A devaluation could help solve the macro-economic problems of Côte d'Ivoire (see section "The business cycle"), and it would cause an increase in the relative price of tradables (vs. non-tradables), from which the main agricultural commodities would benefit, since they are typical tradables in the country.

However, a devaluation would also imply risks; in the end, it would be better to accept a tighter monetary policy. The most obvious risk would be the loosening of monetary discipline. Moreover, a devaluation would not prevent overvaluation in the future and a possible vicious cycle of devaluations and inflation.

The decision to devalue implicitly would be based on the assumption that wages and prices are downwardly inflexible, which is not certain, as is testified by the experience of Côte d'Ivoire, at the beginning of the 1980s. And if a devaluation was decided, it would mean a decrease in the purchasing power of the people, and would be successful only if there were some exchange rate or price illusion.

However, there is a need for adjustment. Devarajan & de Melo (1987) show that:

membership in the CFA zone does not, in principle, impede adjustment to macro-economic imbalances. There exist enough instruments to achieve, for example, the real exchange rate depreciation that is necessary to redress a current account deficit.

In fact, in recent years, real wages have been lowered, and wages in public firms and parastatals have been aligned with those of civil servants. This means that some wage flexibility exists and, therefore, that the exchange rate instrument may not be completely necessary.

The World Bank, which has been involved in three structural adjustment programmes with Côte d'Ivoire (1981, 1984 and 1986), has continuously asked for an increase in producer prices and a better balance between the relative effective protection of industry and agriculture. During the third structural adjustment programme, the effective protection of industry was estimated to be about 40 percent and that of agriculture about 20 percent. In a projected programme for agriculture, the World Bank would like to introduce measures, such as bonuses and lower taxes, as compensation for the relative burden borne by agriculture.

The IMF and the World Bank are in favour of an increase in the price of coffee, but not of cocoa. At the moment, the price for coffee beans is CFAF 200/kg and, for cocoa beans, CFAF 400/kg. But the price is about the same for processed products. About 90 percent of planters grow both coffee and

cocoa. Coffee needs more care, but producers have been freed from decoration, which is now done in the mills. However, the quality is lower, since producers pick the beans all at once, instead of several times depending on their ripeness. In fact, labour gets a better return from cocoa than from coffee, but production of cocoa is more risky, because of the expansion in world production. In Côte d'Ivoire, a differential evolution of prices for coffee and cocoa has never been politically acceptable, in spite of the lower margin obtained on coffee.

Coffee trees are becoming old and eventually will have to be replaced. Coffee plantations have not been maintained in good condition, and there is an alarming decrease in coffee production, which could be arrested only if better incentives were given to the producers. This would imply: flexible prices, limitation of the role of the CSSPPA and change in the relative price of cocoa and coffee.

THE BUSINESS CYCLE

The present situation in Côte d'Ivoire stems more or less from a historical shock in agricultural prices, which has been aggravated by policy decisions. It gives, in our opinion, a particularly clear example of the general theory of the business cycle which we developed in Chapter 2.

What is fascinating in the experience of the country is the very short-lived rise in the terms of trade (1975-77 boom) and its long-lasting cost, due to undesirable policy responses (see Figure 10). In 1977, CSSPPA resources amounted to 16 percent of GDP! Figure 11 shows that producers did not benefit from these high prices. The greatest part of these resources were used for public investment (Figure 12) and, in 1977, total public expenditures began to increase rapidly although public investment began to stagnate in 1979 and even declined later.

The increase in public investment was mainly allocated to large projects with high unit costs, long gestation lags, and low foreign exchange earning potential. Public expenditure continued to rise rapidly; its share in GDP rose from 15 percent in 1977 to a peak of 26 percent in 1982. By contrast, the private sector adjusted rapidly on both sides of the boom, as shown by decomposing nett domestic

savings. Private expenditure surged immediately following the boom, but it fell just as quickly when the terms of trade deteriorated. (Devarajan & de Melo, 1987; Figure 13.)

It would be preferable to say that individuals were forced to save more than they invested to finance the public deficit, which was not completely externally financed.

In 1976/77, at the time when CSSPPA got a large amount of resources, totalling about CFAF 30 to 40 000 million, the public investment budget rose to about CFAF 350 000 million. Part of these investments were financed not by CSSPPA surpluses, but by foreign borrowing at a period, it may be recalled, when there was a world policy of "cheap money" and low interest rates.

Part of the public borrowing was also met by money creation (the money supply grew at 33 percent a year between 1975 and 1980). But external borrowing was the main source and the debt service ratio (i.e. the ratio of debt service payments to exports), according to Devarajan & de Melo, quadrupled between 1965-75 and 1980-85. The adjustment was borne by the private sector, its surplus of savings over investment permitting a trade surplus and the financing of the budget deficit.

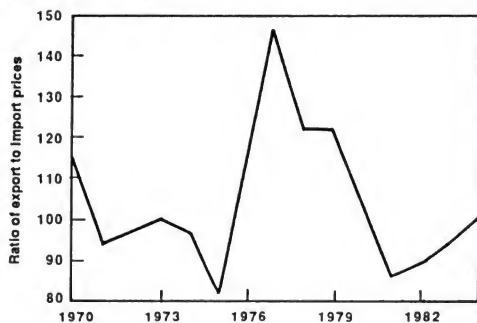
As regards borrowing, the boom period was somewhat artificial; as in most African and Latin American countries, the Ivorian state substituted for private investors to accumulate capital of low profitability with borrowed resources and not with equity capital. Borrowing was made by the state or by public firms with government collateral.

This illusory situation was reinforced by the fact that public investment of borrowed resources was not realized tax-free, so that the increase in investment of borrowed resources implied more tax resources for the state which, thus, had the feeling that prosperity was rapidly increasing and that the public budget was in a sound position.

In 1977, the price of coffee began again to decrease. But, at the same time, oil was discovered in Côte d'Ivoire, and the belief spread that prosperity was long-lasting. The government was still ready to borrow, and foreign banks ready to lend. Meanwhile, deficits of public firms were huge, but financing was made possible by borrowing and by using CSSPPA surpluses.

FIGURE 10

Terms of trade (1973 = 100), 1970-82

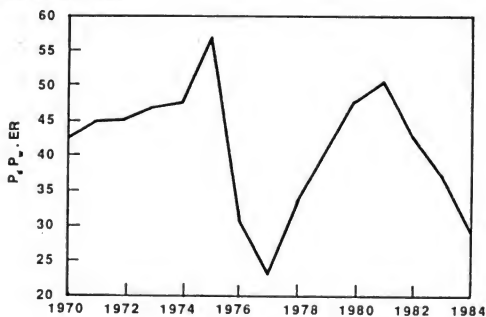


Note: Weighted index of prices of exported to imported commodities

Source: Devarajan & de Melo, 1987.

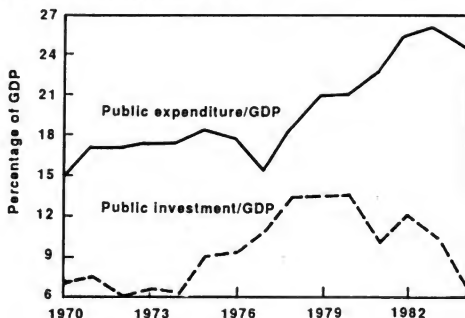
FIGURE 11

Ratio of producer to world price

Note: For coffee and cocoa P_p = domestic producer price; P_w = world price; ER = nominal exchange rate

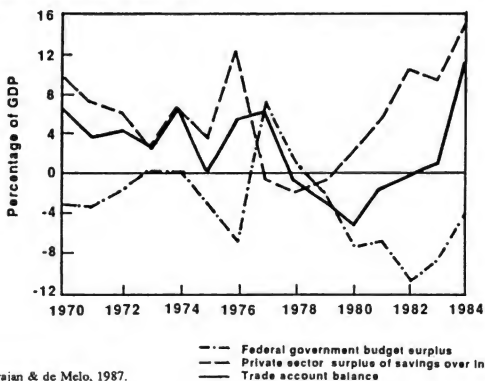
Source: Devarajan & de Melo, 1987.

FIGURE 12
Public expenditure and investment (shares in GDP)



Source: Devarajan & de Melo, 1987.

FIGURE 13
Decomposition of nett domestic savings



Source: Devarajan & de Melo, 1987.

In 1979, the banking system continued a policy of easy credit in spite of the drastic worsening of the situation. In the same year, there was a CFAF 20 000 million deficit in the budget and a complementary budget of CFAF 30 000 million expenditure was voted.

After 1980, the Central Bank of West African States (BCEAO) strongly facilitated the financing of the deficit. In 1980/81, the combination of a large public deficit, a balance of payments deficit and important debt arrears gave evidence of a deep macro-economic disequilibrium. The IMF wanted to suppress the arrears (about CFAF 200 000 million owed by state and public firms), through a programme which included foreign borrowing, restoring the balance of payments and launching public investment (financed by public borrowing) to avoid a recession. About CFAF 100 000 million in 1981 and CFAF 50 000 million in 1982 were put into the market. However, a debt without interest (state arrears) was thus transformed into an external debt bearing international interest rates. The external debt rose from CFAF 800 000 million in 1981 to CFAF 2 000 000 million in 1983.

Meanwhile, the CSSPPA obtained fewer resources in 1982/83 because of a sharp decline in cocoa and coffee prices and a decrease in the dollar exchange rate. Adjustment was obtained through reductions in wages (mainly those of civil servants) and producer prices, so that the CSSPPA was no longer in a deficit position and, could even achieve a small surplus. The government refused to increase taxes, which was suggested by the IMF.

The stabilization policy designed by the IMF improved the situation in 1985. The growth rate of the economy reached 5.3 percent, the inflation rate fell to 2 percent, there was a budget surplus (about 3.7 percent of the GDP) and surpluses in the trade balance and the external current account. Côte d'Ivoire has implemented adjustment policies, supported by the IMF, since 1981 and all the targets which had been decided upon were reached by 1985. The purchasing power of Ivorians, however, fell by 20 percent within four years.

New stand-by facilities were granted in 1986 to support the adjustment programme of 1986-88. In 1986, the World Bank also accepted a third structural adjustment programme. At the end of that year, cocoa and coffee prices rapidly decreased, as well as the dollar (while prices of coffee and

cocoa are in dollars, the debt is largely in CFAF). From 1986 to 1987, the cocoa price fell 20 percent and that of coffee by 40 percent. Export resources were to decrease by about 7 percent. The surplus of the CSSPPA (an average of CFAF 260 000 million in 1984/85) turned into a deficit in 1987 (about CFAF 90 000 million), whereas the public deficit reached about 7 percent of GNP.

To cope with the public deficit, expenditures were to be reduced by about CFAF 15 000 million in 1987, and CFAF 20-25 000 million in 1988, and several taxes increased (tax on industrial and commercial profits, higher brackets of income tax, etc.).

It was forecast that, due to the situation of the CSSPPA and debt repayments, the financing needs of the public sector amounted to about CFAF 250 000 million in 1988.

Future economic prospects will depend mainly on export proceeds. However, the authorities intend to increase public investments by 5 percent a year. This strategy might not be the best one, as it is now well known that these investments may imply high recurrent costs and a low rate of return. There is a risk that financing problems will increase in the future, thus impairing agricultural development.

With the fall in cocoa and coffee prices in 1987, the government had to suspend the repayment of its debt in May 1987. It had to reimburse about CFAF 400 000 million, which amounted to about half the public budget. The CSSPPA, which had transferred about CFAF 270 000 million in 1986 to the state, went into deficit. The external debt in 1988 amounted to about CFAF 2 500 000 million. The rescheduling of the country's total debt was negotiated in 1988 with the London Club.

These figures seem impressive. However, they also show that the government has accepted a level of indebtedness which is well beyond its capacity to repay. In other words, the investments made with the borrowed funds could not promote a sufficient increase in production for the state to be able to obtain the additional resources necessary for reimbursement, without having to decrease the purchasing power of citizens. It might be said that unexpected events have made reimbursement of the debt difficult. However, a decrease in coffee and cocoa prices would, at any rate, have happened.

The real problem, however, is the fact that funds which have been diverted from agriculture were not efficiently used. If they had been used efficiently, there would not have been any reimbursement problem. New projects would have produced sufficient returns for the debt to be easily reimbursed, whatever the price of agricultural commodities.

The problem really stems from the fact that huge resources were forcefully obtained by the CSSPPA, giving the government the impression it was the owner of Côte d'Ivoire resources and making it possible to borrow large sums of money. What happens now means that the nett return of investments and infrastructure has been negative (rate of return lower than the rate of interest), which means a waste of resources, particularly regrettable in a low income country.

What would have happened if farmers had been allowed to keep the whole amount of resources from coffee and cocoa when prices were high? It is often said that they would have consumed all of it, without any positive effect on the economy. Let us assume that this is true, although it is debatable. The state would have been unable to borrow the money it has borrowed (without a larger money creation and an increase in the internal inflation tax, which was made difficult, from the working of the franc zone). This only means that the state would have been prevented from making investments, the rate of return of which has been negative! The collectivization of resources in the country is the true reason for its present economic difficulties. This would not have occurred if farmers had been allowed to keep the resources they had earned. Any future solution has to consider ways of letting people keep their property rights on what they earned.

To summarize, it is possible to oppose two different growth strategies in Côte d'Ivoire:

1. The traditional macro-economic approach: big projects, and development of parastatals are implemented by the state or under its control. Financing is obtained either from internal sources (national savings or money creation, which causes global disequilibrium) or from external debt. The debt has to be reimbursed, whatever the actual rate of return of former investments.

contrary to the case of other countries (such as Zambia, which is considered in Chapter 6), there is less and less land available, so that progress in agriculture implies improvements in productivity and, therefore, investment. Moreover, it is doubtful that any significant increase in coffee and cocoa prices can be expected in the near future. Therefore, even if we regret the way resources from exports have been used in the past, we should not expect any fundamental change in the system, such as privatization of price stabilization organizations or formal rules to prevent farmers being deprived of a large part of the resources they have created. However, such changes are necessary.

It would certainly be ironical to privatize the stabilization system at a time when world prices are depressed and farmers would have to share losses and not profits! On the other hand it can also be argued that, if world prices were to remain depressed, the CSSPPA would in any event be unable to "stabilize" the incomes of farmers, since it has spent the greater part of past benefits and has not enough reserves to distribute significant resources. It would necessarily have to decrease producer prices. Given the fact that farmers cannot expect any assistance from a stabilization fund which is working one-way and is nothing but a tax collector, it would be preferable to give them the benefit from any increase in prices.

We must also learn from the past, that price changes can be sizable and are difficult to forecast, and that farmers are able to adjust their production, their specialization, or their savings to external signals. It would be pretentious to decide on future specializations, but it would be wise to allow for more flexibility in individual decisions so that marginal changes (and sometimes more structural ones) could allow adjustment to external conditions.

FOR A NEW CONDITIONALITY

The improvement in the public sector position from 1982 to 1985, in conformity with the IMF prescriptions, was largely due to the increased contribution of the CSSPPA (Table 5). The IMF prescriptions, being too global and aiming mainly at obtaining some general concept of macro-economic equilibrium, made it possible for the government to choose ways for

adjustment that were the least politically painful. Instead of firing civil servants or reducing their wages, or abandoning some prestige projects, it is easier for a government not to give farmers all that they were entitled to.

From that point of view, the Ivorian case teaches an important lesson. It is common for Africans and external observers to criticize the IMF for its stabilization programmes, on the grounds that they impose austerity, inducing a slowing down of growth and an increase in poverty. From a general point of view, such criticisms are purely demagogic and dangerous. Past disequilibria were the result of illusory policies, long-term consequences of which would only destabilize the economy and impair the growth process. Thus, it would be responsible to support the stabilization efforts of the IMF and its search for macro-economic equilibrium.

Meanwhile, we must be cautious about two important points: firstly, the short-term distribution of adjustment costs, and secondly, the necessary changes for history not to repeat itself. Both aspects mean that we ought not to forget that the relevant problems cannot be considered only from some sort of "mechanistic" approach, according to which some macro-economic variables have to be manipulated. In particular, public authorities are composed of human beings who react to the constraints imposed upon them and try to minimize political and bureaucratic costs. Thus, the restoration of macro-economic equilibrium in Côte d'Ivoire in 1985 was widely celebrated, and the IMF was then ready to supply additional resources. This achievement, however, was partly obtained at the expense of farmers (as was prosperity in the 1970s).

When the first stabilization programme was launched at the beginning of the 1980s with the support of the IMF, it was already obvious that the prosperity of the 1970s was partly fallacious and that it had been obtained through the state's confiscation of resources (from farmers and holders of money), and its unconstrained propensity to borrow (with the implicit collateral of the CSSPPA). We may regret that the IMF programmes had not been more conditional. Among the reforms to be introduced, the disappearance of the CSSPPA was to be given the priority, as well as some other institutional changes concerning, for instance, the effective protection of agriculture and industry.

TABLE 5

Côte d'Ivoire: surplus on stabilization operations of the CSSPPA and public sector overall balance, 1982-85

	1982	1983	1984	1985
 (% of GDP)			
Overall public sector deficit (-)/surplus	-16.1	-11.7	-1.7	2.0
Surplus on stabilization operations ¹	2.7	3.8	9.2	9.8
Overall public sector deficit (-), excluding stabilization operations	-18.8	-15.6	-10.9	-7.8

¹ Cocoa and coffee only.

Sources: Data by Ivorian authorities and staff estimates, Schiller, 1988.

By celebrating the progress made by the country in 1985 in the direction of macro-economic equilibrium and by accepting the lending of more money to it, the IMF has implicitly agreed to the continuation of past policy. Past illusions can, therefore, become future illusions.

Contrary to the case of some other African countries, high export prices could have allowed a relative improvement in the standard of living of Ivorian farmers during some periods. This has not been the case. As in other African countries, but with different means, transfers have been imposed from agriculture to other sectors.

Taking into account the different economic environments of these various countries and the differences in their natural specializations, we may conclude that agricultural problems cannot be explained entirely by economic "automatism", but that they are also dependent upon political and institutional processes. These factors have to be taken into consideration in the design of stabilization programmes and would imply more conditionality with more specific policy prescriptions. Such an orientation may be difficult to implement, given that there are numerous ways of transferring resources from agriculture to other sectors. Anyhow, stabilization plans cannot be criticized on the grounds of being explicitly detrimental to agriculture, but

rather for being too global to avoid policy decisions detrimental to agriculture.

REFERENCES

- Berthelemy, J.C. & Bourguignon F. 1987. *Macro-economic policy, crisis and growth in the long-run: the case of the Ivory Coast*". (Unpublished paper).
- Calabre, S. & Granger R. 1987. Situation et problématiques du financement de l'agriculture en Côte d'Ivoire, *Banque Nationale pour le Développement Agricole*, March. Abidjan.
- Devarajan, S. & de Melo J. 1987. Adjustment with a fixed exchange rate: Cameroon, Côte d'Ivoire, and Senegal, *The World Bank Econ. Review*, 1, no. 3: p. 447-487. Washington, D.C.
- FAO. 1984. *Ivory Coast rice policy*, 5-9 March, Rome.
- IMF. 1986a. *Côte d'Ivoire - Recent Economic Developments*, Washington, D.C.
- IMF. 1986b. Côte d'Ivoire: les efforts d'ajustement ont permis à l'économie de retrouver sa vitalité, *IMF Bull.* Washington, D.C.
- INADES. 1986. *Stratégie et grandes options de développement de la Côte d'Ivoire*, April.
- Ministère de l'Agriculture. n.d. *Le régime foncier*, République de Côte d'Ivoire.
- Ministère de l'Agriculture. 1985. *Annuaire des statistiques agricoles et forestières*, République de Côte d'Ivoire.
- Ministère de l'Agriculture et des Eaux et Forêts. 1985. *L'Agriculture ivoirienne, bilan et perspectives*, République de Côte d'Ivoire, September.
- Ministère de l'Agriculture et des Eaux et Forêts. 1986. *Structures agricoles et forestières en Côte d'Ivoire*, République de Côte d'Ivoire.
- Ouattara, A. D. 1986. The balance of payments adjustment process in developing countries: the experience of the Ivory Coast, *World Development*, 14, no. 8: p. 1085-1105. Washington, D.C.
- Ribound, M. 1987. *An examination of economic policy in the Ivory Coast: difficulties for sustained growth* (Unpublished paper).
- Schiller, C. 1988. *The fiscal role of price stabilization funds: the case of Côte d'Ivoire*, IMF Working Paper p. 5, Washington, D.C.
- World Bank. 1987. *The Côte d'Ivoire in transition: from structural adjustment to self-sustained growth*, vol. 1: The Summary Report; vol. 2: The Main Report; vol. 3: The Analytical Framework; vol. 4: Statistical Annexes. Washington, D.C.

4. The omnipresence of state intervention in Senegal's groundnut economy

Twenty percent of Senegal's GDP consists of agricultural output produced by its rural population, which comprises 80 percent of the total population. Its main crops are millet and groundnuts grown by farmers, firstly for subsistence and secondly for cash. Increasing intervention in the groundnut sector (in particular, nationalization of groundnut marketing and low producer prices) has led to farmers' response expressed by regular collective debt defaults and resort to parallel markets. Efforts by the World Bank and the IMF since the early 1980s have focused on liberalizing the groundnut sector. One critical point concerns the "transition period" during which the rural sector should be protected, since it has suffered for many years owing to permanent resource shifts. The long-term development strategy based on irrigated agriculture and food self-sufficiency is considered a dubious option.

MAIN ECONOMIC AND AGRICULTURAL INDICATORS

A rather small population is typical for nearly all West African countries (Table 6). Senegal's population has doubled over the last 20 years. It has a slightly higher population growth rate than the average for sub-Saharan Africa. Like most countries in tropical Africa, it is a low-income country. Its GDP growth rate per caput is among the worst, because during the last two decades, the growth rate per caput has not only stagnated, but has even been slightly negative (-1.1 percent). Thus, Senegal's agricultural performance is one of the most alarming in sub-Saharan Africa.

Among the various specific features that differentiate one country from

TABLE 6
Senegal: main economic and agricultural indicators, 1965-85

	1965	1985
Population (millions)	3.4	6.6
GDP per caput (US\$)	240	370
Agric. popul./total popul. (%)	83	80
Agric. GDP/total GDP (%)	25	19
Agric. exports/GDP (%)	13	5
<hr/>		
Annual growth rates	1965-80	1980-85
GDP	2.0	3.3
Population	2.5	2.9
GDP per caput	-0.5	0.4
Agric. production	1.4	1.8
Agric. production per caput	-1.1	-1.1

Source: World Bank, 1987a and FAO, 1987.

another, we have chosen two that reflect the legacy of the former French colonial period. The first feature is that Senegal, more than other developing countries, is characterized by a top-heavy bureaucracy. Dakar, in fact, was the headquarters of France's West African empire. After independence in 1960, Senegal was left with a large tertiary sector accounting for 59 percent of GDP, compared with an average share of 35 percent in other countries of former French West Africa (Lewis, 1987). The large and, in particular, highly paid government sector burdened the economy considerably. Since independence, the urban sector, with its self-perpetuating bureaucracy, has been more concerned with preserving its living standards than with moderating its claims on resources. Government wages set the bench-mark for wages in the private sector, impairing the competitiveness of manufactured exports. Urban tastes diverted food demand from domestic millet to im-

TABLE 7
Senegal: annual consumption, production and
imports of cereals in normal years

	('000 metric tons)
Domestic production:	750
Millet, sorghum, maize	650
Rice	100
Imports:	450
Rice	350
Wheat (foreign aid)	100
Total consumption	1 200

ported rice. It was also France that made Senegal import rice during the 1930s, since rice from what was then French Indochina was cheap.

The second specific feature of the Senegalese economy concerns the dominance of groundnut production within the agricultural sector, within total exports and within the total economy. It was again France that made Senegal produce groundnuts since French households had a special preference for groundnut oil. A preferential treatment of groundnut imports from Senegal had its origin in the early 1930s. At that time, the world price of groundnuts plummeted and Senegalese peasants shifted from groundnut crops to millet crops. In order to revive the groundnut trade, in 1933 France established a duty of approximately 10 percent on imports of vegetable oil, while Senegal's groundnut imports were duty-free (Tignor, 1987). Because of France's membership in the European Economic Community (EEC), tariff preferences ended in 1976. It was also around that time that Senegal's heavy interventionism in the groundnut sector began, with huge parastatals and adverse measures on the incentive structure for groundnut farmers. Any diversification of export products was disregarded. The bureaucrats of Dakar set the agricultural signals to maintain the purchasing power of the urban population. Any promising development strategy has been absent, plunging the country into a deep structural crisis since the end of the 1970s. Periods of drought were certainly not the origin of the crisis, because they

TABLE 8

Senegal: food crop prices and quantities, 1971-86

	Broken Rice				Millet and Sorghum		
	Import price	Retail price	Retail price as % of import price	Production (paddy)	Imports price	Producer price of rice as % of millet price	Retail Production
	(CFA/kg)	(CFA/kg)	(%)	(tons)	(tons)	(CFA/kg)	(%) (tons)
1971/72	25	40	160	59 800	131 000	18	222
1972/73	25	40	160	19 600	192 000	18	222
1973/74	50	60	120	35 000	207 000	25	240
1974/75	87	60	69	65 200	102 000	30	200
1975/76	60	100	167	61 300	244 000	30	333
1976/77	44	80	181		248 000	35	228
1977/78	45	80	178		239 000	35	228
1978/79	53	80	151		352 000	40	200
1979/80	42	80	190		302 000	40	200
1980/81	60	80	133	65 000	306 000	50	160 545 000
1981/82	90	80	89	127 000	322 000	50	160 986 000
1982/83	82	105	128	95 000		55	190 585 000
1983/84	91	130	143	101 000		60	217 352 000
1984/85		130		136 000		60	217 471 000
1985/86		160		147 000		70	228 950 000

Sources: Waterbury, 1987, p. 69; Craven & Tuluy, 1981, p. 245; Jammeh, 1987, p. 239; IMF, 1987, p. 15; World Bank, 1987, p. 94.

have occurred at regular intervals for more than a century.

FOOD CROPS

In normal years (neither drought nor exceptional rainfall), the pattern of food production and food imports is as follows:

More than one-third of total cereal consumption is imported (rice is the most important import item after petroleum), and more than one-third of total cereal consumption consists of rice. Whenever local production falls short, as for example during years of bad harvests, cereal shortages are met mainly by foreign aid. Senegal's desire (in common with many other developing countries) of self-sufficiency in food must imply the following: an increase in the relative price of rice with respect to millet (in order to consume less rice and more millet), and an increase in the relative price of millet with respect to groundnuts (in order to produce more millet and fewer groundnuts). From the point of view of the trade balance, this shift in the agricultural consumption and production structure would be neutral, if the decrease in groundnut exports were offset by a decrease in rice imports.

During the 1930s, Senegal (like many other West African countries) imported rice from Indochina at very low prices (1 kg of groundnuts in the shell was traded for over 1 kg of broken rice). Therefore, it was in the interests of farmers to grow more groundnuts at the expense of millet and sorghum. Since then, consumption patterns in favour of rice began to change. In the 1970s and 1980s, 1 kg of imported rice was twice the price of groundnuts. Broken rice imports increased from 131 000 tonnes in the early 1970s to over 300 000 tonnes in the late 1970s (Table 8). Despite the higher price of rice in comparison with millet, rice consumption was not discouraged. Rice is a convenience food, being easy to prepare and having a high prestige value. By contrast, millet flour cannot be stored and must be prepared daily. Owing to its labour-intensive preparation, the substitution of millet for rice is undesirable as far as the urban population is concerned.

The IMF and the World Bank both stress the necessity for most African countries to remove food subsidies and to increase producer prices. Since the early 1980s, the IMF and the Bank have become heavily engaged in attempting to solve Senegal's structural crisis. Thus, from 1980/81 to 1985/86, the consumer price for rice was doubled and the producer price of millet was increased by 40 percent (Table 8). Consequently, the relative retail price of rice with respect to millet was increased. However, this relative price change only re-established the long-term relative price ratio between rice and millet.

TABLE 9

Senegal: producer and consumer price(s) of imported and domestically produced rice, 1987

(CFAF/kg for first semester 1987)

Imported rice	
International price	72
Taxes levied by CPSP	79
Wholesale price ¹	151
Domestic rice	
Producer price for paddy	90
Transformation cost by SAED	93
Producer price of broken rice	183
Subsidy paid by CPSP	34
Wholesale price ¹	149

¹ The retail price was 160.
Source: CPSP.

Local production costs of rice are extremely high so that in most years, the relationship is as follows: the local production cost of rice is more than the price of rice, which is more than the imported price of rice. *Caisse de la Péréquation et de la Stabilisation des Prix* (CPSP) taxes rice imports and subsidizes local rice production. One example is given in Table 9 for the first semester of 1987. The local production cost of rice was more than double the international price. Since, on average, local production amounts to 100 000 tonnes and imports to 350 000 tonnes, the CPSP usually realizes a profit (depending on the level of the international price of rice).

Rice is grown on 2 percent of the available land. One-half of paddy is produced in the Casamance region and the remainder in the irrigated areas (Senegal River Valley) which are controlled by the *Société d'Aménagement et d'Exploitation du Delta* (SAED). SAED, which started in 1966, is a parastatal purchasing locally produced rice and selling it to mills (both public and private) for processing. The production costs of broken rice, estimated at CFAF 183/kg for 1987 (Table 9), are in fact far higher. If we

add subsidies for fertilizer, seeds and water use (roughly CFAF 50/kg) and the amortization costs for dams and preparation of irrigated land (at least CFAF 50/kg), the production cost reaches approximately CFAF 300/kg for broken rice (see Engelhard & Ben Abdallah, 1986), four times the international price in 1987. Under the pressure of the IMF and, in particular, of the World Bank, some subsidies for inputs have been curtailed. Fertilizer subsidies have gradually been decreased and will be eliminated in 1989/90.

Senegal's new Cereal Development Plan of July 1986 is based on heavy irrigation investment. There must be many doubts that the solution to Senegal's chronic dependency on rice imports may lie in the north where, in the next decade, a complex of dams promises to transform 240 000 ha of near-desert in the Senegal River Valley into irrigated farmland. The two dams, at Diama in Senegal and at Manatali in Mali, are part of a massive regional development programme that involves both countries, along with neighbouring Mauritania. Top priority in the Senegalese part of the valley will go to the cultivation of rice (in 1985/86, only 27 000 ha were under cultivation). Because of the involvement of heavy capital and management costs, it is doubtful whether this project of capital-intensive import substitution can be justified at the level of cost-benefit analysis. The World Bank should launch more analytical studies on this topic.¹

Only under the most heroic assumptions about the international price of rice and about the exchange rate, can the import substitution policy for rice in the Senegal River Valley be justified. Assuming the highest international price for rice during the 1980s as the relevant price (which was at US \$0.45 per kg in 1980/81) and the highest depreciation level of the CFAF with respect to the US\$ as the normal exchange rate (which was more than CFAF

¹ At the beginning of the Fourth Plan in 1973, there was already a target date for self-sufficiency in rice, set for 1985. In 1972, Senegal, Mali and Mauritania, formed a joint *Organisation pour la Mise en Valeur du fleuve Sénégal*. Another example of capital-intensive import substitution leading to a considerable waste of resources is represented by the single sugar plant at Richard-Toll, a private enterprise which has been granted a government monopoly. Its production costs are more than twice world market prices. When domestic sugar cane produced on irrigated land is insufficient, in order to maintain the full production of white (and not of brown) sugar, the balance is imported and transported at vast expense from Dakar to Richard-Toll for refining.

450/US\$), the highest import price for rice would be around CFAF 200/kg. If we assume, in addition, that Senegal's CFAF is overvalued with respect to the French franc by 50 percent, rice imports could be taxed by 50 percent and we would arrive at an international price of CFAF 300/kg. This corresponds to the social production costs we had estimated at CFAF 300 for the first semester of 1987 for capital-intensive rice production in the Senegal River Valley.

According to the estimations by Craven & Hasan Tuluy (1981) and Hasan Tuluy (1981), local rice production in the southern labour-intensive Casamance region seems to be socially profitable. It could be developed to provide local self-sufficiency. Production and milling costs are low enough and transport costs for imported rice from Dakar are high enough to permit domestic prices to compete with imports in the local market of the Casamance. However, given that other crops are still more profitable than rice, regional development of rice in the Casamance would still be inefficient.

An important contribution of the World Bank in the 1980s has consisted in introducing more competition into rice trading. The monopoly position of the CPSP and of the SAED capital is in the process of being broken. As far as the CPSP is concerned, it had monopoly power for importing and distributing rice. Private importers are now allowed into the rice trade which, in the very near future, will be fully privatized, except for the holding of a security stock of 60 000 tonnes of rice which remains under the responsibility of the CPSP. As far as the SAED is concerned, private merchants for marketing seed and domestic rice are also allowed to enter the market.

Millet and sorghum are considered subsistence crops and their consumption is mainly met by local production. Official markets handle only 5 percent of total production, however. Twenty-five to 30 percent are marketed through cash sales or barter. Since private traders have been excluded from trading in groundnuts, they have turned to trading in millet.

It seems to us that the Senegalese government as well as the World Bank lack a coherent strategy toward food crops.

We feel that all production should be increased: rice, millet and groundnut. Constraints of resources are given less consideration but must, however, be

TABLE 10

Senegal: production, area, yield and marketing trends for groundnuts, 1930-85 (annual averages)

	Production (metric tonnes)	Area (ha)	Yield (kg/ha)	Marketed ground- nuts over pro- duced groundnuts (%)
1930/31-1939/40	529 000	609 000	869	81
1940/41-1949/50	443 000	561 000	790	70
1950/51-1959/60	699 000	794 000	880	65
1960/61-1969/70	937 000	1 066 000	879	73
1970/71-1979/80	867 000	1 130 000	767	76
1980/81-1984/85	756 000	1 074 000	704	55

Source: Gersovitz & Waterbury, 1987a, p. 10.

imposed on the ultimate choice. Given Senegal's political situation, in which the urban population dominates, one possible pattern of agricultural production corresponding to Senegal's constraints of resources would be the following:

- The consumer price of rice should be gradually raised to the level of its local production cost, implying lower rice consumption and rice imports;
- Any extension of irrigation should be stopped;
- There would be a consumption switch towards more millet and sorghum.

Consequently, the relative producer price of millet has to rise with respect to the producer price of groundnuts. As a result, groundnut production and groundnut exports will suffer. However, our contention is that more effort should be put into the diversification of exports since, for too long, the export sector has been based on the groundnut sector.

CASH CROPS (GROUNDNUTS)

Among West African countries, Senegal is the most important producer and exporter of groundnuts.² The centre of activity of the entire Senegalese

TABLE 11

Senegal: groundnut and millet area and proportion of groundnuts to total area, 1960/61-1985/86

	Millet (ha)	Groundnuts (ha)	Total (ha)	Groundnuts/Total ha (%)
1960/61	762 211	976 994	1 739 205	56.1
1961/62	830 800	1 025 500	1 856 300	55.2
1962/63	864 622	1 031 129	1 877 751	54.0
1963/64	959 373	1 084 215	2 043 588	52.8
1964/65	1 010 818	1 054 901	2 065 719	51.0
1965/66	1 069 390	1 112 100	2 181 490	51.0
1966/67	996 666	1 114 065	2 110 731	52.8
1967/68	1 155 365	1 163 846	2 319 211	52.4
1968/69	1 053 687	1 191 027	2 244 714	53.0
1969/70	1 037 260	963 050	2 000 310	48.2
1970/71	966 553	1 049 751	2 016 304	52.1
1971/72	973 450	1 060 344	2 033 794	52.4
1972/73	935 941	1 071 444	2 007 385	53.6
1973/74	1 102 829	1 024 947	2 127 776	48.2
1974/75	1 144 758	1 052 113	2 196 871	48.0
1975/76	964 688	1 311 562	2 276 250	57.5
1976/77	948 839	1 294 963	2 243 802	57.8
1977/78	942 796	1 161 098	2 103 894	55.5
1978/79	1 054 800	1 154 365	2 209 165	52.4
1979/80	954 800	1 096 800	2 051 600	53.5
1980/81	1 116 700	1 074 700	2 191 400	49.0
1981/82	1 176 900	1 015 500	2 192 400	46.3
1982/83	990 700	1 167 300	2 158 000	54.1
1983/84	827 800	1 109 700	1 937 510	57.3
1984/85	1 002 900	874 000	1 876 900	46.6
1985/86	1 335 700	604 600	1 940 300	31.2

Source: Waterbury, 1987, p. 53 for 1960/61-1979/80. World Bank, 1987, p. 94 for 1980/81-1985/86.

economy, before and after independence, lies in the groundnut basin.

It covers 75 percent of the total cultivated area and includes 50 percent of the total population. It produces 75 percent of total groundnut output and 65 percent of total cereal output. The groundnut basin also attracts increasing concern with regard to the problem of desertification. For a long time there has been a gradual process of soil depletion and ecological deterioration due to an increase in population and livestock, together with the gradual elimination of fallow land.

During a period of more than 50 years, total land cultivation has nearly doubled, but the yield per hectare has decreased (Table 10).³ One factor for this has been the climate. Since the mid-1960s, rainfall has been below normal levels and there were periods of severe drought during 1968-72 and 1981/85.

A deeper insight is gained by examining the total acreage for groundnuts plus millet after 1960 (Table 11). In the early years (1960-63), it increased and then stagnated, with a slight tendency to fall again over the last three years. As far as the relative share of land for groundnut crops over total land is concerned, it remained rather stable at around 50-55 percent during the long-term, indicating that Senegalese groundnut farmers who are growing both crops are strongly devoted to cash crops. However, its short-term variability is considerable, of up to 10 percentage points and even more than 20 downward percentage points, in 1985/86.

The variability of groundnut area depends neither on the relative producer price of groundnuts with respect to millet, nor on the purchasing power of the producer price of groundnut, in terms of consumption goods (Table 12). There is no obvious substitution effect between groundnut and millet production, which is rather surprising. There is some positive correlation

² The other countries are, in declining order of importance: Nigeria, the Niger, the Gambia, Côte d'Ivoire, Guinea-Bissau, Sierra Leone, Burkina Faso and Togo. Groundnuts also constitute the most important export crop for the Gambia and, to a lesser extent, Nigeria and the Niger. See Onyemelukwe & Filani (1983, p. 56). Among other cash crops, cotton represents Senegal's second major export crop. It is grown predominantly in the eastern part of the country.

³ During the Second World War, groundnut farmers were forced to turn to subsistence millet since rice imports were practically non-existent.

TABLE 12

Senegal: relative producer prices of groundnuts, 1970/71-1986/87

	Producer price of groundnuts	Millet	Relative producer price of groundnuts/millet	Groundnut producer price in real terms	Groundnut ha/total ha
		(CFAF/kg)		(1980/81 = 100)	(%)
1970/71	24.1	18	134	126	52.1
1971/72	23.1	18	121	115	52.4
1972/73	23.1	18	121	109	53.6
1973/74	25.5	25	102	108	48.2
1974/75	41.5	30	138	151	48.0
1975/76	41.5	30	138	115	57.5
1976/77	41.5	35	118	114	47.8
1977/78	41.5	35	118	102	55.5
1978/79	41.5	40	104	99	52.4
1979/80	45.5	40	114	99	53.5
1980/81	50.0	40	125	100	49.0
1981/82	60.0 ¹	50	120	113	46.3
1982/83	60.0 ¹	50	120	97	54.1
1983/84	50.0 ²	55	91	72	57.3
1984/85	60.0 ²	60	100	77	46.6
1985/86	90.0	70	128	102	31.2
1986/87	90.0	70	128	97	—

¹ Net producer price. From the gross producer price (CFAF 70) has been deducted a retainer of CFAF 10/kg to finance the seed distribution scheme.

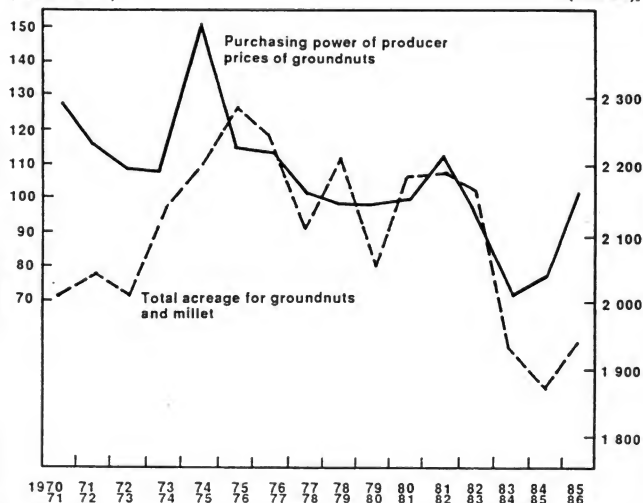
² Net producer price. The retainer is CFAF 20 to finance the seed distribution scheme (CFAF 15/kg) and the distribution of fertilizer (CFAF 5 open kg).

Sources: Waterbury (1987, p. 64) for producer prices 1970/71-1979/80 and IMF (1987, p. 15) for producer prices 1980/81-1986/87. The producer price of groundnuts in real terms is derived from the consumer price index (IMF, IFS).

between the purchasing power price (or real producer price) of groundnuts and total land cultivation for groundnuts and millet (Figure 14). Thus, as we have mentioned in Chapter 1, an increase in the (real) price of cash crops

FIGURE 14

Senegal: real producer prices for groundnuts and total acreage for groundnuts and millet

Real producer prices of
groundnuts in terms of
consumption goods
(1980/81=100)Total ha for
groundnuts
and millet
('000 ha).

Sources: Tables 11, 12.

can result in an increase of area for cash crops plus food crops.⁴ Furthermore, the groundnut price is the reference price for all other crops. When there is a change in official groundnut prices, producer prices of all other crops change in the same direction.

⁴ The low cultivation area in 1970-72 and in 1981-85 coincides with the two drought periods.

TABLE 13

Senegal: producer prices received by groundnut farmers as a percentage of export prices, 1970/71-1985/86

	Export price (US\$/kg)	Producer price (CFAF/kg)	Producer price as % of export price (CFAF/kg)	(%)
1970/71	0.282	78.3	24.1	0.31
1971/72	0.251	69.5	23.1	0.33
1972/73	0.254	64.1	23.1	0.36
1973/74	0.391	87.1	25.5	0.29
1974/75	0.739	177.9	41.5	0.23
1975/76	0.433	92.8	41.5	0.45
1976/77	0.423	101.1	41.5	0.41
1977/78	0.547	134.4	41.5	0.31
1978/79	0.631	142.4	41.5	0.31
1979/80	0.563	120.0	45.5	0.38
1980/81	0.485	102.5	50.0	0.49
1981/82	0.623	169.3	60.0	0.35
1982/83	0.383	125.8	60.0	0.48
1983/84	0.349	133.0	50.0	0.37
1984/85	0.350	153.0	60.0	0.39
1985/86	0.350	157.2	90.0	0.57

The export price in 1970/71 US\$ is that of 1970, and so on.

Sources: IMF, IFS, and Table 12.

As is the case for many other sub-Saharan countries, the Senegalese government extracts resources from the agricultural (groundnut) sector in imposing low producer prices. According to Table 13, the transfer of resources from the groundnut sector to the government (or to the public sector) varied between one-half and three-fourths of the revenue from export

crops.⁵ However, as we shall see in the next sections, this transfer may have ended in a simple waste of resources. On the one hand, Senegal no longer exports crude groundnuts, but transforms them into groundnut oil and cake, for export. Senegal's groundnut industry is not internationally competitive and was originally established for a greater capacity than the current marketed volume of groundnuts. On the other hand, the internal marketing system for groundnuts, handled predominantly by a highly bureaucratic and corrupt parastatal, absorbed a great part of the resources extracted from groundnut farmers. The farmers reacted to these resource shifts in two ways: they resorted to parallel markets (as in many other sub-Saharan countries) and to collective debt default (which is a rather special case for sub-Saharan Africa).

SENEGAL'S AGRARIAN SOCIALISM OR THE NATIONALIZATION OF SENEGAL'S GROUNDNUT MARKETING

At the end of the nineteenth century, France established for many of its colonies a particular rural institution, called *Société Indigène de Prévoyance* (SIP). It was designed to cope with specific agricultural risks. These institutions were first created in Indochina and North Africa and they were introduced in West Africa in the early twentieth century (Tignor, 1987). The goal of SIP was to provide food and seed security for farmers. It was a cooperative organization created under the initiative of the colonial administrators, with membership established on a voluntary basis.

The trading pattern of Senegal's groundnut economy before the Second World War was the existence of some big export-import companies and a host of merchants (nearly 4 000), mostly Syrian and Lebanese, who served as a link between the major buying centres and the peasants. They also provided credit to farmers and collected seeds to store and sell in the next planting season. When merchant competition was intense and world prices for groundnuts high, loans were granted at relatively low interest rates. At

⁵ Since 1986, the fall in the international dollar price of groundnuts and the depreciation of the US dollar produced for the first time the opposite pattern: a tremendous decline in the domestic export price below the guaranteed producer price (which was increased in 1985/86 by 50 percent) such that 1986 and 1987 were deficit years for the Treasury.

that time, the role of SIP was still limited. Thus, in the early 1930s, SIP distributed only 40 percent of the groundnut seed stock, while the rest was provided either by the farmers themselves or by merchants. As far as the marketing of groundnuts was concerned, the activity of SIP always remained marginal and rose to 3 percent of the total trade in the late 1930s (Tignor, 1987). The relatively modest scale of SIP in seed provision stems from the fact that it gradually turned into a colonial administrative body headed by French civil servants, imposing a colonial tax on its members (*cotisation*) and becoming a corrupt arm of the state.

After the Second World War, SIP lost increasingly in importance. Private cooperatives were created for groundnut marketing which, in the early 1950s, reached a marketing share of 10-20 percent of total groundnut trade. They were dominated by local religious and political leaders and rapidly encountered financial difficulties because of over-indebtedness to colonial authorities as a consequence of widespread corruption. Because the post-war cooperative movement was linked to nationalist sentiment, France could not use heavy coercion. It could only suppress or re-organize the most problematic of these private cooperatives.

The essential problem for the peasant of any subsistence economy is the conservation of food for the "lean season" and the stocking of seed for the next planting season. In the case of Senegal (and many other West African countries), two additional elements have to be taken into account by the farmer: variable climate and periodic droughts, on the one hand, and fluctuating world prices for groundnut exports on the other.

There are various organizational models for handling and solving the peasants' problem. One possible model is that of the "provident peasant". Berg (1980) offers a model for West Africa for which state intervention in the trading and credit system would be a nuisance and for which private traders could run the rural marketing and credit systems without being exploitative. The peasant is experienced and plants as much millet grain as is necessary to feed the family during the year, provided rainfall is normal. Since the peasant also needs cash, he or she grows groundnuts and migrates during the dry season to work elsewhere.

However, that model has never been adopted by Senegalese officials (or

elsewhere in West Africa) either at independence, or today. The officials have another model in mind, namely to encourage the peasant away from subsistence production (millet) and into the market sector (groundnut cash crop); this makes the peasant vulnerable to exploitation by traders. After the groundnut harvest, the peasant sells his or her crop to the trader, for cash or partly for consumer goods. When he or she runs out of cash due to insufficient millet reserves or a bad harvest, for example, he or she borrows money from the trader at usurious interest rates and reimburses the debt at the next harvest time.

It was France, with its long cooperative tradition (leftist radicalism and social Catholicism) that recognized this type of "market failure". Colonial France's original motivation for creating SIP was to protect the African peasant from the rapacious trader-cum-money-lender and to break the ties of indebtedness to merchants. At the time of independence, Senegal's nationalistic leaders shared also in this anti-mercantile bias.⁶

However, their cooperative model was different from SIP's voluntary model which, by the way, had completely failed. Their basic idea was the elimination of nearly 7 000 traders from the groundnut market and the nationalization of groundnut marketing. After independence, it took about five years to realize this project. Since 1980, the World Bank has been engaged in dismantling the 20-year-old system; but it will take a much longer time to establish some basic rules for a market system.

Immediately after independence, village-based cooperatives were established in the groundnut regions. They were conceived as the basic element of communitarian society called "African Socialism", the official ideology of the regime. At the same time, the government created two official groundnut bodies: the *Banque Sénégalaise de Développement* (BSD) for financing the groundnut trade, and the *Office de Commercialisation Agri-*

⁶ In the 1950s, French intellectuals and Catholics took renewed interest in the cooperative movement. The influential Dominican priest, Father Lebret, founded a society called *Economie et Humanisme*. According to this study group, cooperatives would be the most adequate institution for rapid indigenous development in developing countries (as Jesuits suggested in Latin America two centuries ago). The work of Lebret was well known to the leader of the Senegalese cooperative movement, Mamadou Dia (see Tignor, 1987).

cole (OCA) for buying and selling groundnuts. Groundnuts had to be marketed, either by cooperatives or by private merchant groups (*organismes stockeurs*) licensed by the state. The links between the cooperatives and the OCA were assumed by the *Centre Régional d'Assistance au Développement* (CRAD); it collected the crops marketed by the cooperatives, managed the seed stock and distributed food credits. The share of total marketing by cooperatives rose from 20 percent in 1960/61 to 75 percent in 1965/66 (Table 14). In 1966, private merchants were completely suppressed, and the OCA and CRAD were replaced by the *Office National de Coopération et d'Assistance pour le Développement* (ONCAD), an organization that later on was to become notorious in the groundnut basin.⁷

The cooperatives have not evolved according to the ideals promoted under African socialism, (i.e. toward independent and self-managing units). On the one hand, the groundnut cooperatives "remained under the tutelage of the state which set groundnut prices, distributed seed, provided credit..., supervised cooperative accounts, and determined local development priorities" (Gellar, 1987). On the other hand, the "middlemen" between the cooperatives and the state, CRAD (later on, in 1966, integrated with ONCAD), quickly obtained the reputation of being corrupt and dependent on local notables, religious leaders and powerful politicians.

THE PARASTATAL APPROACH, INDUSTRIAL PROCESSING, THE SYNDROME OF COLLECTIVE-DEBT DEFAULT, AND PARALLEL MARKETS

Parastatal approach. The political goal of the cooperative movement was not only to prevent "exploitation" by private money-dealers and crop purchasers, but also to eliminate rural patronage systems which were in the hands of rural notables and religious leaders (*marabouts*), and to give peasants democratic control over the cooperatives. However, shortly after

⁷ Additionally, in 1964, private rural property of the conventional type was abolished. Only those peasants who had cultivated land in the past had access to it. Land managed by rural councils could be taken away from those who no longer cultivated it. Also, since 1964, millet and groundnut production has not increased substantially (see Table 11).

their implementation, they were demoted to simple transmission centres between farmers and parastatals. At the same time as ONCAD replaced OCA, other parastatals were created all of which functioned in the same way as ONCAD: *Société d'Aménagement et d'Exploitation des Terres du Delta et de la Vallée du Sénégal et de la Falèmes* (SAED) in the irrigated areas of the lower Senegal river basin; *Société de Développement des Fibres Textiles* (SODEFITEX) in the cotton growing fields of south-eastern Senegal; and *Société pour la Mise en Valeur de la Casamance* (SOMIVAC) in the rice growing regions of the Casamance.

The parastatal approach was coupled with a technical or production-oriented approach which, in the mid-1960s, was shared by many Senegalese officials.

Senghor... was as taken by Galbraith's view of the new industrial state as he was by an African socialism rooted in the parochial solidarities of pre-colonial African rural society. His faith in the ability of a small group of highly-trained managers and technocrats to master-mind the development process became stronger after 1963... The élitist-managerial approach was premised on the idea that intelligent planners and diligent managers could handle basic problems of production and distribution more efficiently than markets (Gersovitz & Waterbury, 1987).

Two external factors accelerated the production-oriented approach. Firstly, donors favoured agriculture which emphasized better cultivation techniques and improved seed and fertilizer inputs. Secondly, France's membership of the ECC obliged it to gradually eliminate, from 1963 to 1967, preferential prices for agricultural products from its former African colonies. In order to maintain export revenues from groundnuts, France proposed an increase in productivity. More groundnuts should be produced and sold in order to compensate for the fall in export prices. This proposition from France, which was also the main donor country, was accepted and entrusted to the *Société d'Aide Technique et de Coopération* (SATEC), which devoted its main attention to tools, techniques, seed and fertilizer. SATEC's mission was to increase groundnut and millet productivity in the groundnut basin within three years (1964-67), but

TABLE 14

Senegal: evolution of merchant cooperatives, 1960-66

Marketing season	No. of coops (no.)	No. of private merchant groups by coops (no.)	Share marketed (%)	Groundnuts marketed (metric tons)
1960/61	668	3 000	20	786 000
1961/62	1 123	1 210	49	883 000
1962/63	1 415	778	58	765 000
1963/64	1 424	606	63	782 000
1964/65	1 416	585	66	849 000
1965/66	1 467	510	75	999 000

Source: Schumacher, 1975, p. 163 and Gelliar, 1987, p. 129.

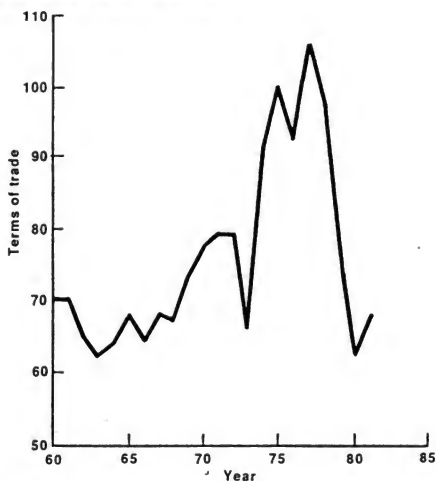
it failed.⁸

The first *malaise paysanne* happened in the late 1960s. It was the result of various factors: the severe drought (1968-72), the decline in agricultural inputs (fertilizer, agricultural equipment, etc.), a growing reluctance and inability to serve the debt contracted directly with the cooperatives and indirectly with ONCAD, lower producer prices and, consequently, increased use of parallel markets.⁹

⁸ According to Waterbury (1987b, pp. 195-197), SATEC built its own prison. Its programme was premised on increasing groundnut production so that any reduction in groundnut acreage was unthinkable. If we take an "average" farm of 7.5 ha, the ideal, from this point of view, might be 4 ha under groundnuts, 2 ha under millet and 1.5 ha fallow. However, without major increases in millet yields, this farm could not meet its members' food needs. Fertilizer was the key to increased millet yields, but to buy it, even on credit, the peasants would have to grow even more groundnuts. For SATEC, there really was no way out of this situation. For the peasant, reducing the proportion of fallow land was the only solution.

⁹ In late 1965, the government changed its groundnut price policy. In former years, producer prices were near world market levels. Since French subsidies on Senegalese groundnut exports were to be reduced in 1967, the government in 1965 began to shift operating costs previously assumed by OCA and later by ONCAD, to groundnut producers.

FIGURE 15
Senegal: terms of trade, 1960-82 (1975=100)



Source: Gersovitz, 1987, p. 39 & IMF, IFS.

Industrial processing. After the severe Sahelian drought of 1968-72 international commodity prices boomed. In 1974, the international price of groundnuts doubled and the world market price of phosphates, one of Senegal's major mineral exports, quadrupled. Domestic producer prices were also allowed to double. Record crops of groundnuts were realized in 1974/75 (1 million tonnes) and in 1975/76 (1.4 million tonnes). Senegal's government became euphoric. The international price signals were understood to be permanent. Despite the adverse oil price shock, Senegal's terms of trade improved considerably (Figure 15). Their rise was interpreted as part of a long-term trend and the subsequent gains, of a sustained nature. They were only windfall gains, however, since the boom of phosphate prices

TABLE 15

Senegal: budget and current account deficits, 1968-84

	1968-73	1974-77	1978-84
Real exchange rate CFAF/FF (1980 = 100)			
Consumer prices	103.0	91.5	99.4
GDP deflator	88.7	91.5	98.2 ¹
Exports of groundnuts & oil/total exports (%)	36.8	36.0	16.3
Budget deficit/GDP (%)	0.9	1.8	2.5 ²
Current account deficit/GDP (%)	3.6	4.3	10.5 ³

¹ 1978-81.² 1978-83.³ For 1983/84, trade balance deficit.

Source: IMF, IF.

lasted only two years and groundnut prices returned quickly to more normal (even though slightly higher) levels. As in so many other developing countries, the short-lived commodity price boom of the mid-1970s led Senegal's government to more public consumption and to a vast investment programme. The latter was concentrated mainly on industrialization for value-added export promotion. Factories were built in order to transform cotton into textiles, sugar cane into refined sugar (which, as we have already seen, became a particular source of wasted resources), phosphates into fertilizer, fish into fishmeal, and groundnuts into oil products and feed cake. France had already launched the groundnut processing industry in the 1950s, but its size had been rather limited. Given the record crops of groundnuts in 1974-76, and the high international price of groundnut oil, Senegal expanded the refining capacity of its oil mills, *Société Nationale de commercialisation des Oléagineux* (SONACOS), to 900 000 tonnes, which proved to be a very costly investment because of the later underutilization of its capacity.

The highly expansionary policy reaction to the international commodity price boom did not immediately produce a rapid deterioration of the current

account (Table 15). Export revenues were still considerable. Since most of them favoured government revenue, the budget deficit was still moderate, despite the rising wage bill within the public sector. The rapid deterioration of the current account was delayed until the late 1970s, when exports declined and imports accelerated.

Collective-debt default. The root of Senegal's latest structural crisis was laid in the mid-1960s with the parastatal approach to agriculture, and in the mid-1970s with the industrial processing of primary commodities. A third long-term cause was the collapse of the agricultural credit system. In the early 1960s, each cooperative was built around several villages. While in former times, the collateral for credit consisted of liens on crops and agricultural equipment, the individual responsibility for debt was replaced by collective responsibility in terms of "village solidarity." However, the collective solidarity for debt was not limited to a particular village, but was extended to other villages forming part of the same cooperative. Because a good payer in one village felt rationally reluctant to cover the debts of bad payers in other villages, several collective debt defaults occurred. Another factor was the particular relationship of the peasant to the state, which was more antagonistic than cooperative. Lower producer prices for groundnuts since the late 1960s and the paternalistic behaviour of ONCAD created a game-theoretic reaction: widespread debt default and resort to parallel markets.

The first debt relief took place in 1971, which was the period of the first *malaise paysanne* and the Sahelian drought. The state forgave CFAF 2 600 million in debt arrears. Ten years later, after ONCAD was abolished under pressure from the World Bank (leaving ONCAD's debt the banking sector at CFAF 94 000 million), the state cancelled previous debt for seed and fertilizers amounting to CFAF 30 000 million. In the years in between, the government had already reduced farmers' debts by a given percentage. Unfortunately, the debt cancellation procedure did not distinguish between "good payers" (who were honest enough to have served their debt) and "bad payers" (who were rewarded for their default), providing sufficient incentive for good payers to stop servicing their debt. In general, it could be said

that groundnut farmers reacted to lower producer prices and to ONCAD's monopoly, less by lowering production but more by collective debt default, in trading-off higher implicit taxation against forgiven debt (Waterbury, 1987b).

The record levels of peasant indebtedness and the increasing disaffection of farmers with ONCAD, shown by their delivery of groundnuts to parallel markets, implied increasing government budget deficits. Already in the late 1970s, donors were dissatisfied with the rural credit system. In 1979, the World Bank and the French *Caisse Centrale de Coopération Economique* urged the introduction of village-based cooperatives, as the default problem grew in magnitude. The establishment of such cooperatives was opposed by local notables and politicians who also sought to control as much as possible the considerable amounts of resources which were channelled through the larger cooperatives. Only in 1983, under pressure from the World Bank and other donors, were 4 200 village-based cooperatives created. They had now the right to manage a wide range of activities such as the distribution of credit, the management of seed, the marketing of agricultural products and the establishment of collective equipment programmes (Gellar, 1987).

Parallel markets. As already mentioned, the groundnut processing company SONACOS had been established with a production capacity of 900 000 tonnes of groundnuts. Whereas the annual average output of groundnuts amounted to 870 000 tonnes in 1971-80, it was reduced to an annual average of 750 000 tonnes in 1981-85 (see Table 10). However, during the 1980s, a much smaller volume was delivered to SONACOS because of the very low producer price for groundnuts (Table 16). Farmers found parallel markets, particularly in the neighbouring country, the Gambia, where the producer price was between the international price for groundnuts and Senegal's producer price. During the early 1980s, smuggling to the Gambia was estimated to be between 100 000 tonnes and 250 000 tonnes a year (Nomisma, 1987). The Senegalese government reacted by establishing a confederation between Senegal and the Gambia (Senegambia) in February 1982, which is still in operation, although it has

TABLE 16

Senegal: disposition of groundnut production, 1981-86

	1981	1982	1983	1984	1985	1986
 ('000 tonnes)					
Oil mill	62.8	517.0	701.0	216.0	145.0	270.0
Confectionary nuts	1.0	7.0	17.0	7.0	4.0	10.0
Self-consumption & parallel market	328.6	174.6	232.4	201.0	252.0	246.2
Seed	124.0	132.0	139.0	130.0	76.0	55.0
Losses	5.0	36.0	56.0	21.0	13.0	20.0
Total production	521.4	866.6	1 145.4	575.0	490.0	601.2

Source: World Bank, 1987.

not halted smuggling.

Another reason for the low input of groundnuts for the processing industry was the increasing influence of local religious leaders, the marabouts. They were demanding an additional premium for groundnut producers and, because the government failed to respond, they encouraged smuggling not only to the Gambia, but also to countries to the north. Furthermore, the domestic parallel market for vegetable oil was flourishing, since farmers began increasingly to process groundnuts into oil, by handicraft methods. Thus, instead of the producer price of CFAF 60/kg in 1984/85, they could realize CFAF 110-115/kg by transforming groundnuts into oil, where one litre of oil (which can be produced from 4 kg of groundnuts) cost CFAF 475 on the domestic market.

Finally, another major reason for the fall in vegetable oil output by SONACOS was the overall reduction in output of groundnuts. From 1975/76 to 1985/86, the total area of arable land for groundnuts was reduced by 35 percent, from approximately 1 300 000 ha to 600 000 ha (Table 11). There is a strong correlation between the real producer price of groundnuts and the production of groundnuts. As Table 12 and Figure 14 indicate, the real producer price of groundnuts (in terms of consumer prices) was more

than halved between 1974 and 1986.

IMF AND WORLD BANK ACTIONS IN THE 1980s

Before the long-lasting adjustment crisis struck the Senegalese economy in 1978, the government's main concern was maintaining a relatively high level of consumption, in particular for its urban population. Indirectly, donors (with France constantly in the lead) encouraged this seemingly agreeable way of life. They admired the non-repressive, relatively open and highly democratic political regime, but not when erratic downward fluctuations in export earnings took place (which occasioned the introduction of the STABEX scheme in early 1975).

When the crisis fully hit the Senegalese economy in 1978 (real GNP per caput fell 26 percent), discussion centred around whether the country's problems were of a cyclical or a structural nature (Lewis, 1987). The principal representatives in this debate were the Senegalese government, the main donor countries, the IMF and the World Bank.

The Senegalese government's initial reaction to the crisis was to call it transitory. Furthermore, experience had taught it that somebody (usually the French) would rescue it in the event of bad times. Farmers' debts were again cancelled in 1978. A moderate recovery occurred in 1979, which seemed to confirm the transitory view. The government reacted to the modest recovery by satisfying its influential constituents. Wages of the public sector were increased by an average of 35 percent, and higher subsidies were granted for the main urban food items: rice and sugar.

A number of donor countries believed that the crisis was cyclical. The EEC also held this view. Since STABEX was designed to offset slumps in export earnings, many of those resources were fully used to assist Senegal. The major donor country, France, had a more restrained approach. The French Ministries of External Affairs and of Cooperation saw the crisis as cyclical. The Treasury and the project lending agency (*Caisse Centrale*) had seen the need for structural adjustment since the mid-1970s (Lewis, 1987).¹⁰

The IMF and the World Bank were the most fervent proponents of the structural interpretation of Senegal's crisis. However, only in October 1979

did the government ask for an extended fund facility from the IMF and for a structural adjustment loan from the World Bank. The extended fund facility had a short life. Granted in August 1980, it was put on hold three months later, and shifted to a simple one-year standby in September 1981. The latter was cancelled in the second quarter of 1983. Something similar happened to the structural adjustment loan. It was granted at the end of 1980, but its second tranche was similarly suppressed in the second quarter of 1983.

The extended fund facility and structural adjustment loan were new policy instruments created during the late 1970s. Senegal was one of the first countries to adopt these new policies. To a certain extent, it had been considered a "structural adjustment showcase" (Lewis, 1987), but it failed two-and-a-half years later. The failure was ascribed to some indicators of non-performance in the agricultural sector and to subsequent repercussions on the government's budget side. Our assessment of that "experiment", as it was handled by the IMF and the World Bank, remains rather critical with respect to the underlying methodology for assessing performance. Many of the macro- and sectorial conditions put forward by both institutions are interdependent. If one particular area fails (in the case of Senegal, it was the question of the distribution scheme for fertilizer and groundnut seed), the whole package could be jeopardized. There was no place for a more differentiated grading. It may be thought that the IMF and the World Bank acted thus to protect their new policies in view of similar future programmes with a large number of developing countries. In this context, the phenomenon of "moral hazard" is crucially important. The performance criteria of the new structural policies for the first countries set the bench-mark of the

¹⁰ Among donors of bilateral and multilateral aid, France was always the main and "residual" one. During 1976-82, France provided between one-third and one-half of total transfers (Table 17). It tended to meet shortfalls when Senegal could not find other funding arrangements (Lewis, 1987). The cumulative sum of official transfers over the whole period almost equals the cumulative trade balance deficits (defined as resource gaps). During 1980-82, annual official aid per caput was over \$50, about the same as the average for the other Sahelian countries but twice the level other sub-Saharan countries received (Lewis, 1987).

TABLE 17

Senegal: official nett transfers disbursed, 1976-82 (US\$ millions, 1972)

	1976		1977		1978		1979		1980		1981		1982	
	\$	%GDP	\$	%GDP	\$	%GDP	\$	%GDP	\$	%GDP	\$	%GDP	\$	%GDP
Trade balance deficit	90	6	255	16	147	12	289	17	252	17	263	22	170	14
Official transfers														
Total	133	9	136	9	197	17	212	14	251	17	248	21	234	19
France	59	4	49	3	83	7	65	4	139	9	78	7	142	11

Source: Lewis, 1987, pp: 316-19.

performance criteria of later countries who applied for the same type of facilities and loans.

In 1983/84 and 1984/85, GDP growth rate was still negative, mainly because of the severe drought. Again, agricultural output was the main contributor to the GDP upturn since 1985/86. Weather conditions became favourable and higher producer prices for groundnuts, millet and rice provided new incentives. The GDP growth rates for the last three years were estimated to be around 4 percent (Figure 16). An improvement had also occurred in the current account deficit. Excluding official grants, the current account deficit narrowed to 10.8 percent of GDP in 1986/87, compared to 21.7 percent in 1982/83. Two major factors have contributed to the external improvement. Firstly, due to the insistence of the IMF and World Bank, the budget deficit (on a commitment basis, excluding grants) decreased to 2.6 percent of GDP from the high 8.8 percent in 1982/83. On the other hand, quantitative restrictions on imports and price controls (except food) were gradually removed. These efforts were supported by successive stand-by arrangements with the IMF and, since 1986, by the IMF's structural adjustment facility.

REFORM MEASURES FOR THE RURAL SECTOR

ONCAD was abolished in 1980. The World Bank had always considered

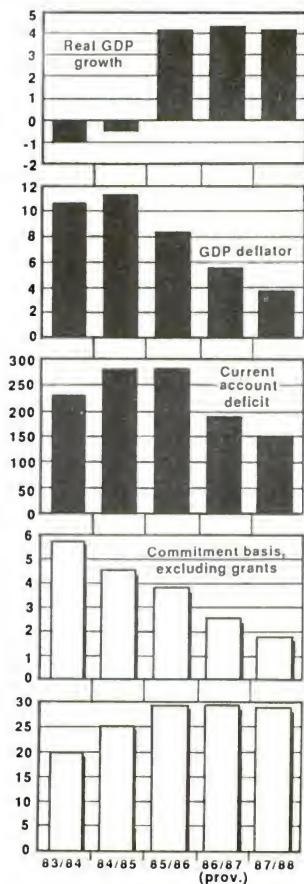


FIGURE 16
Senegal: key macro-economic indicators, 1983/84-1987/88

Source: Brou, 1988

ONCAD an inefficient monopoly that provided inputs (e.g. fertilizer and seeds) and cooperative credit to groundnut farmers and marketed their output. In the course of negotiating structural adjustment loans in mid-1980, corruption and a major theft were disclosed. The immediate reaction of the Senegalese government was to liquidate ONCAD. The marketing function of groundnuts was shifted to the oil-crushing firms and the remaining functions were transferred to the *Société Nationale d'Approvisionnement du Monde Rural* (SONAR), the successor parastatal. Thus, the World Bank was satisfied in this one respect.

However, within the organizational structure of the groundnut sector, many problems remained to be solved. The main theme for the World Bank was decentralization and less bureaucracy. The repeated cancellation of farmers' debt such as that of 1981, which the Bank had to accept, was one example. The credit system had to be reformed and one necessary element of such reform was the replacement of centralized cooperatives by village-level ones. However, there was still an unsolved problem as to whether the obligation of the debt service should be individual or collective. In January 1983, the second option was chosen.

Neither the World Bank nor the IMF were satisfied by the 43 percent increase in producer prices of groundnuts in 1981. Even though both institutions, and particularly the World Bank, had always pleaded for an upward adjustment of producer prices to the international level, the year 1981 marked the turning point, when the world price of groundnuts began to fall. Consequently, the heavy subsidies (seeds, fertilizers) for groundnut production represented a considerable contribution to the budget deficit.

Since 1981/82, quality seeds have not been distributed freely (see Table 12), and the sale price of the subsidized fertilizers has increased. However, in 1985 when SONAR had accumulated a total debt of CFAF 15 000 million, the distribution of fertilizers was assigned to the private company, *Société Industrielle des Engrais Sénégalaises* (SIES) and the sale of seed to the two oil mills, SONACOS and *Société Electrique et Industrielle du Baol* (SEIB). Both of these mills were also in charge of purchasing groundnuts cooperatives at the announced government price. In January 1987, the two companies were fully integrated. Furthermore, private traders were allowed

back into the marketing process, which was merely an acknowledgement of a *fait accompli*.

The most important agricultural pricing institution, the *Caisse de Péréquation et de Stabilisation des Prix* (CPSP), remained unchanged, except for its import monopoly of rice which, since 1987/88, has been removed in favour of private traders. It has always had little decision-making power, which was the domain of Senegal's presidency. The latter fixed the official price for groundnuts which has evolved as a reference price for all other crops (Jammeh, 1987). Price policies operating through the CPSP have always revolved around the two commodities: rice and groundnuts. In principle, rice imports had to be taxed and groundnut exports subsidized — a policy which would be redundant if Senegal had the ability to devalue its currency (see Appendix: "Substitutes of exchange rate adjustments"). However, even though rice imports were taxed, groundnut exports have only been subsidized since 1986, when the domestic producer price was increased by 50 percent (Table 13); while the world market price for groundnuts fell drastically and the US dollar depreciated heavily.

SENEGAL'S OPTIONS OF FUTURE AGRICULTURAL DEVELOPMENT

We have described in some detail government interventions in the agricultural sector since pre-independence times in order to present the right background to answer the question: what can be learnt from the bleak experience of Senegal?

Even though recently, foreign earnings from phosphate sales and fish exports have considerably exceeded those from groundnut oil and feed cake, groundnuts remain the pivotal export item. In the 1930s, when imported rice from Southeast Asia could be had at an unimaginably low price, farmers did well by growing more groundnuts and less millet or sorghum, since one kilogram of groundnuts in the shell could be exchanged for more than one kilogram of broken rice. The official view of independent Senegal maintained the priority of cash crops over food crops. However, understandably, the peasant's priority has been to secure adequate food. When rice cost four times as much a millet, the farmer produced millet instead of groundnuts. When the price for groundnuts that the French were prepared to pay had to

be cut, SATEC was sent in to increase groundnut production by 25 percent. However, production failed to respond as peasants increasingly used fallow land to cultivate millet. When wrong domestic price signals were set for groundnuts, peasants sold them in the parallel market. Since the government taxed them heavily, they responded regularly with collective debt default.

The present report wants to consider the standard argument of the re-establishment of the "true" relative prices for agricultural inputs and outputs. Since, for decades, there has been a bias in favour of the urban population and of bureaucratic waste, the agricultural sector needs to regain its proper share within the economy. Moreover, agricultural activity should be subsidized for a short transition period, in order to accelerate such restructuring. For that reason, we do not understand why the IMF and the World Bank put so much weight on cutting subsidies for fertilizer and seeds for overall budgetary reasons. We agree that the removal of food subsidies (rice), raising producer prices to international levels (groundnuts), and reducing subsidies for agricultural inputs, all serve to implement the "true" relative prices. However, in the IMF's and the World Bank's programmes there has been a lack of strategy for relative prices in the long-term. The present "wrong" relative price is the one for rice and, consequently, the whole price structure between rice, millet and groundnuts is distorted. There is no clear-cut guideline for the structure of the various crops in the structural adjustment projects, even though its global criterion exists: namely, the efficient allocation of resources. A long-term strategy exists only for the marketing of agricultural inputs and outputs, even though the "optimal marketing" of agricultural credit still remains an unsolved problem.

Senegal's plans for irrigation and self-sufficiency in food (plans which are shared by many other developing countries) constitute the main elements of its long-term agricultural development strategy. We are doubtful about the validity of that option. In the very long run, an activity which was the "orphan" of development plans in the past, should not be overdone, and the country's future should not be made to depend on dubious farm production schemes such as irrigation and self-sufficiency. The World Bank is also sceptical as to whether large-scale water storage projects in Senegal, the Gambia and the Casamance river valleys are profitable. There is still the

possibility of increasing production in the rain-fed areas, at the expense of the costly capital-intensive projects to expand irrigation agriculture. Furthermore, the resource shift to peripheral irrigation areas by leaving Senegal's heartland, where the bulk of the rural sector is living, practically unchanged, may be politically unrealistic. Another and complementary alternative to irrigation agriculture consists of investing in human capital so that new skills for the efficient future production of a wide array of tradable goods would be brought about.

REFERENCES

- Berg, E.** 1980. Reforming grain marketing systems in West Africa: case study of Mali, *IGRISAT*, p.: 147-172.
- Brou, J.C.** 1988. Senegal achieves adjustment with growth, *IMF Survey*, 16 May, p.: 152-155.
- Craven, K. & Hasan Tuluy, A.** 1981. Rice policy in Senegal, *Rice in West Africa*, p.: 229-262. Stanford. California.
- Engelhard, P. & Ben Abdallah, T.** 1986. *Enjeux de l'après-barrage*, Paris.
- FAO.** 1987. *World Tables*.
- Gellar, S.** 1987. Circulaire 32 revisited: prospects for revitalizing the Senegalese cooperative movement in the 1980s, *The Political Economy of Risk and Choice in Senegal*, p.: 123-159.
- Gersovitz, M.** 1987. Some sources and implications of uncertainty in the Senegalese economy, *op. cit.*, p.: 15-46.
- Gersovitz, M. & Waterbury, J. (eds).** 1987. *The political economy of risk and choice in Senegal*, London.
- Gersovitz, M. & Waterbury, J.** 1987. Introduction, *op. cit.*, p.: 1-14.
- Hasan Tuluy, A.** 1981. Costs and incentives in rice production in Senegal, *Rice in West Africa*, p.: 263-298. Stanford. California.
- IMF.** 1987. *Senegal: recent economic developments*, 16 March.
- Jammeh, S.C.** 1987. Politics of agricultural price decision-making in Senegal, in M. Gersovitz & J. Waterbury (eds), *op. cit.*, p.: 223-244.
- Lewis, J.P.** 1987. Aid, structural adjustment, and Senegalese agriculture. In M. Gersovitz and J. Waterbury (eds), *op. cit.*, p.: 283-325.
- Nomisma.** 1985. *Cooperazione allo sviluppo: Senegal*, p. 127. Bologna.
- Onyemelukwe, J.D.C. & Filani, M.O.** 1983. *Economic geography of West Africa*, p. 56. London.
- Schumacher, E.J.** 1975. *Politics, bureaucracy, and rural development in Senegal*, p. 163. Berkeley.
- Tignor, R.** 1987. Senegal's cooperative experience, 1907-1960, in M. Gersovitz & J. Waterbury (eds), *op. cit.*, p.: 90-122.
- Tuck, L.** 1987. Financial markets in rural Senegal, M. Gersovitz & J. Waterbury (eds), *op. cit.*, p.: 160-187.
- Waterbury, J.** 1987a. The Senegalese peasant: how good is our conventional wisdom?, M. Gersovitz & J. Waterbury (eds), *op. cit.*, p.: 47-73.
- Waterbury, J.** 1987b. Dimensions of state intervention in the groundnut

basin, M. Gersovitz & J. Waterbury (eds.), *op. cit.*, p.: 188-223.

World Bank. 1987. *Senegal: an economy under adjustment*, February 13, p. 94. Washington, D.C..

World Bank. 1987a. *World Development Report 1987*, Washington, D.C..

5. Liberia's dual agricultural economy and the urgent need for currency reform

Liberia is an agricultural economy with two distinct sectors: a concessional sector of foreign-owned firms (dealing with iron ore, rubber, timber) that provides the main part of the country's GDP and which is heavily export-oriented; and a subsistence sector (consisting of mainly rice production) for which an import substitution policy has been unsuccessfully launched on several occasions. For a long time, there had been substantial growth in the enclave economy, but without any development in the rest of the economy. In recent times, growth of the concessional sector has considerably slowed down. Liberia's GDP has declined to that of the late 1960s, and Liberia's former currency (the US dollar) has disappeared as a consequence of "Gresham's Law".¹ A prerequisite for any stabilization programme is the introduction of a viable domestic currency. However, successful monetary reform has to be accompanied by budgetary reform. Since 1985, the IMF and the World Bank have withdrawn any support to Liberia because no agreement could be reached on the monetary issue.

MAIN ECONOMIC AND AGRICULTURAL INDICATORS

Liberia belongs to the group of low-income countries. In terms of population, it is one of Africa's smallest economies (Table 18). Its population growth rate is among the highest in sub-Saharan Africa. Total GDP per caput

¹ Gresham's Law holds that when money of a high intrinsic value is in circulation together with money of lesser value, it is the inferior currency which tends to remain in circulation, while the other is either hoarded or exported.

TABLE 18

Liberia: main economic and agricultural indicators, 1965-85

	1965	1985
Population (million)	1.4	2.2
GNP per caput (US \$)	140	330
Agric. GDP/total pop. (%)	79	72
Agric. GDP/total GDP (%)	27	37
Agric. export/GDP (%)	12	18

Annual growth rates	1965-80	1980-85
	(%)	(%)
GDP	3.2	-1.9
Population	3.0	3.4
GDP per caput	0.2	-5.3
Agric. production	5.5	1.1
Agric. production per caput	2.5	-2.3

Source: World Bank, 1987 and FAO, 1987.

has stagnated over the last 20 years. Although agricultural performance seems strong, the main economic activity that contributes mostly to GDP is located in foreign concessions that produce mainly iron ore, rubber and lumber for export. In this sense, the Liberian economy is a primary product enclave economy.

The early political independence of Liberia, since 1847, should have saved the country from struggles for independence that other African countries underwent after the Second World War, with all the adverse effects on allocation of resources. Liberia should have been a country privileged not to have suffered from the turmoil of a newly independent state. Unfortunately, that was not the case. Instead of colonial rule as had been established in other African countries before the Second World War, Liberia was run by Americo-Liberian immigrants who ruled over the indigenous population since 1847.

In April 1980, the opposition toppled the government in a violent coup. It was only then, after 113 years of unshaken Americo-Liberian rule, that the

TABLE 19

Liberia: GDP and GNP (monetary sector), 1964-85

	GDP (1980=100)	GNP (1980=100)	GNP/GDP	Exports/GDP	Exports of rubber & iron/ GDP	Export- oriented GDP/total GDP	Iron ore GDP/total GDP	Rubber GDP/total GDP	GDP of traditional sector/total GDP (monetary & traditional sector)
1964	617.2	413.2	66.9	52.7	46.3	—	—	—	—
1965	627.8	495.9	79.0	54.7	50.2	—	—	—	—
1966	746.9	519.7	69.6	51.7	45.4	—	—	—	—
1967	741.9	511.5	68.9	51.5	45.8	—	—	—	—
1968	772.2	542.5	70.2	52.3	43.6	—	—	—	—
1969	833.8	611.1	73.3	57.8	49.4	—	—	—	—
1970	888.3	651.8	73.4	60.8	52.7	48.3	32.4	8.3	—
1971	932.4	702.2	75.3	59.7	51.6	48.2	33.2	7.0	—
1972	967.7	806.4	83.3	60.2	52.1	48.4	34.9	6.0	—
1973	943.1	733.2	77.7	78.1	57.0	50.0	28.7	10.0	—
1974	1 013.0	841.9	83.1	78.9	64.3	50.0	32.1	10.4	16.0
1975	859.8	686.4	80.0	64.5	55.7	52.7	40.2	5.3	16.5
1976	894.1	771.8	86.3	72.8	60.3	45.9	31.0	7.0	17.0
1977	886.6	785.7	88.6	63.3	47.0	39.5	23.0	6.3	17.9
1978	921.6	806.9	87.5	65.2	44.4	37.1	17.6	7.0	17.3
1979	962.2	866.4	90.0	60.9	42.8	34.8	14.4	7.3	16.7
1980	916.6	832.9	90.7	65.5	45.0	47.5	29.0	5.7	17.0
1981	876.3	805.1	91.9	60.0	47.0	43.0	26.4	6.0	18.2
1982	857.5	796.0	92.8	53.6	40.7	45.3	26.8	5.8	19.6
1983	829.2	723.4	87.2	51.2	40.7	42.9	24.2	7.5	—
1984	804.2	704.1	87.5	54.1	44.3	43.9	23.4	9.3	—
1985	797.2	702.5	88.1	53.6	43.9	46.5	23.7	9.8	—

Source: IMF, IFS, Ministry of Planning, Economic Survey of Liberia, and IMF (1987).

indigenous Africans who represented the majority of Liberia's population, finally took power. As was to be expected, the economic consequences were disastrous. On the budgetary side, the military government decreed a 100-150 percent increase in the wages of lower-income government workers and soldiers. Public service employment rose from 18 000 in 1979 to 56 000 in 1983 (Dunn & Tarr, 1988). The post-coup atmosphere of a breakdown in public order brought about capital flight and the deterioration of confidence in foreign investors. On the monetary side, "Gresham's Law" drove out the "good money" (the US dollar which is still legal tender) and the "bad money" remained, (the Liberian five-dollar coin, often referred to as the "Doellar").

Between 1980/81 and 1984/85, several IMF standby arrangements were granted with the aim of bringing down the budget deficit. However, during that period, it rose from 10 percent to 20 percent of GDP (on a commitment basis), (IMF, 1987). In 1985, the IMF's extended fund facility and a US\$ 36 million structural adjustment loan by the World Bank were not granted, since Liberia did not accept the underlying conditions of the proposed stabilization programme. One of the most controversial issues was the need for a new domestic currency, which Liberia refused, since one of its implications was budgetary discipline. When eventually Liberia built up considerable arrears with respect to the IMF and other creditors, the IMF and the World Bank withdrew and closed their offices in Monrovia. Disbursements on all loan commitments were also suspended. In 1986/87, the total outstanding debt amounted to US\$1 400 million, equivalent to 170 percent of GDP. Total arrears were equal to US\$517 million, including US\$193.5 million owed to the IMF (IMF, 1987).

AN AGRICULTURAL ENCLAVE ECONOMY

Liberia, the oldest republic in Africa, never suffered under European colonization (and, consequently, also never profited from its by-products in terms of roads, schools and trained administrators). From 1847 to 1940, the country and its economy were in quasi-complete isolation from the rest of the world.

During the Second World War, two events signalled the end of Liberia's

isolation. The allied troops contracted airfields and ports for use for transport and staging areas, and Firestone began production on its rubber plantation which became one of the world's largest. Consequently, an "open door" policy of free capital movements (direct investment) was established. These events, together with the fact that the US dollar was the domestic currency, attracted foreign firms. Liberia headed for a rapid development of its rubber and iron ore resources.

Foreign rubber investors paid a royalty on gross production or income tax payments after a tax exemption period, in return for land rights. Iron ore firms exchanged part of their equity and a share of profits against mining rights. In 1963, the first year in which data was available in IMF's IFS, rubber and iron ore represented more than 80 percent of total merchandise exports, and this relationship remained roughly the same until 1985. Thus, the export structure remained unchanged in the 1980s compared to the early 1960s (Table 19).

The opening of Liberia's economy brought about spectacular growth rates, at least during the 1950s. However, in one of the most important studies of the early literature on the Liberian economy, Clower *et al.* (1966) call it "growth without development" (the title of their book). The two decades following this publication could even be characterized as a period without development and without growth. In 1985, Liberia's GDP returned to the 1968 level. It rose until the mid-1970s, but declined thereafter (Table 19).

Liberia is not only a typical dual economy of the primary commodity type (modern-traditional/monetary-non-monetary sectors), but also an enclave economy, with foreign-owned firms extracting mainly iron ore, rubber and timber. The contribution of rubber and iron ore to total (monetary) GDP was around 40 percent in the early 1970s, and in the 1980s, approximately one third (Table 19). There was no development of other sectors.

The striking features of the Liberian economy are: the high and constant share of rubber and iron ore in total exports, the high share of rubber and iron ore in GDP, and the big difference between GDP and GNP (Table 19). GNP was 25 percent below GDP from the mid-1960s to the mid-1970s, and has been 12 percent below GDP since the mid-1970s. This phenomenon is the direct result of direct foreign investment, since it involves the transfer

TABLE 20

Liberia: Iron ore and rubber production, 1975-86

	1975-78	1981	1982	1983 average	1984	1985	1986
 (million tonnes)						
Iron ore	19.0	20.3	16.4	15.2	16.2	16.2	15.0
Rubber							
Concessions	127.3	130.8	148.3	126.7	147.5	154.1	168.9
Firestone	70.6	70.8	84.9	65.5	77.4	79.4	87.7
Others	56.7	60.0	63.4	61.2	70.1	74.7	81.2
Liberian farmers	55.0	50.7	38.2	51.6	59.7	58.2	54.3
Total rubber	182.3	181.5	186.5	178.3	207.2	212.4	223.2

Source: IMF, 1987, p.: 12, 16 and 19.

of factor income.

For the future, economic progress is unlikely to originate in the concessional sector. Since 1980, the climate for foreign investors has remained unattractive. In 1980, Goodrich sold its rubber plantation to Guthrie, which is no longer replanting. Even the largest Liberian-owned farms are neither replanting nor expanding. However, there was a slight expansion in rubber production during 1984-86 (Table 20). With respect to iron ore, production has declined. Its prospects are rather limited since high-quality Liberian iron ore is depleted. As Table 19 indicates, the share of iron ore in GDP (of the monetary sector) declined steadily from one-third in the 1970s to one-quarter in the 1980s, while rubber roughly maintained its position, at an average of 7 percent to 10 percent of GDP. The question is therefore, can economic recovery be based on the traditional agricultural sector?

SELF-SUFFICIENCY IN RICE AS AN IMPORT SUBSTITUTION POLICY

The activity of the traditional sector, which is essentially the agricultural subsistence sector, has slightly increased from US\$68.8 million in 1974 to US\$81 million in 1982 (constant 1971 dollars). Its GDP share in total GDP (i.e. monetary plus traditional GDP) rose from 16 percent in the mid-1970s, to 19 percent in the early 1980s (Table 19).

TABLE 21

Liberia: production and imports of rice, 1974-86

	Production		Imports		
	Volume	Producer price for paddy	Volume	Average import price for rice	Retail price for rice
	(million lbs.)	(cent/lbs.)	(million lbs.)	(cent/lbs.)	(cent/lbs.)
1974	549	7.0	76	20.8	—
1975	504	10.0	68	20.1	—
1976	540	12.0	83	15.6	—
1977	564	12.0	123	16.0	—
1978	581	12.0	134	17.1	23.0
1979	571	12.0	163	15.9	20.0
1980	538	21.0	191	18.0	20.0
1981	593	18.0	184	21.4	24.8
1982	625	18.0	200	20.3	24.0
1983	639	18.0	208	23.3	24.0
1984	656	18.0	190	22.4	24.0
1985	636	18.0	223	18.4	23.0
1986	638	15.0	188		23.0

Sources: World Bank, 1982, p. 64 for 1974-80; and IMF, 1987, p. 23 for 1981-86.

The dualism of the Liberian economy is also reflected in its food sector. On the one hand, the urban population prefers imported instead of domestically produced rice, while on the other hand, smallholders grow coffee and cocoa for export and rice for their own subsistence, the marketing of which is limited by the existing transport infrastructure (Harbeson, 1985).

In common with many other West African countries there is a growing dependence on rice imports to feed not only the urban population, but also a significant proportion of rural households, for which rice is the traditional subsistence crop. For Liberia, in the mid-1970s, about one-tenth of total rice

consumed was imported. In recent years, it has risen to one-fourth. Over the whole period, domestic production increased by 10 percent but rice imports by 300 percent (Table 21).

During the 1970s, the government's rice policy reflected the desire to encourage production as a means of import substitution. A variable levy on rice imports was introduced in order to absorb the difference between the international price plus distribution costs, and the constant domestic wholesale price. The variable levy became an important generator of government revenue. A higher domestic producer price was financed by consumers and not by the government. (In general, consumers are the source of government subsidies (Monke, 1981).

The rice issue was one of the main reasons for the coup. In 1977, the Minister of Agriculture proposed a 20 percent increase in the rice price to stimulate further production towards self-sufficiency. When the decision was about to be implemented on 15 April 1979, bloody riots broke out; one year later, the government was overthrown.

Self-sufficiency in rice is a policy goal that many other West African countries (like Côte d'Ivoire and Senegal) pursue as an import substitution policy (see Appendix B). In order to increase rice production to reduce imports, domestic resources, particularly labour (a scarce production factor compared to land) have to be diverted from other activities. If these other activities are more efficient than rice production at earning or saving foreign exchange, the import substitution policy reduces the capacity of the country to improve its trade balance.

For Liberia, most agricultural export activities (rubber, lumber, coffee, cocoa, and palm oil) seem to be more efficient earners of foreign exchange than rice. Despite the importance of rice in Liberia, subsistence-oriented agriculture is only peripherally incorporated in the market. Lack of transport facilities rather than lack of interest by peasants in the commercial sphere, is the dominant reason: "Over 90 percent of the agricultural population produces rice, and 85 percent of total production is consumed on-farm", (Monke, 1981a). The considerable cost of transport and distribution makes rice production for home consumption worthwhile. The study by Monke also argued against import substitution of rice:

...in the absence of significant technological changes in rice production, greater potential economic gains in cash-crop agriculture lie in the production of other commodities, such as tree crops (p. 171).

DOE-LARIZATION

Before the Second World War, several foreign currencies circulated simultaneously in the Liberian economy. The predominant one was the British pound. During the Second World War, the United States of America became increasingly involved in the Liberian economy. The American government pursued the construction of airfields, ports and roads, and American firms like Firestone and Pan Am became intensively involved. The US dollar evolved as the dominant currency and eventually replaced the British pound.

Since the 1950s, the US dollar has been the legal tender. In 1974, the National Bank of Liberia (NBL) was founded. Liberian dollar coins circulated simultaneously with US bank notes and US demand deposits (mostly drawn on American banks) at an exchange rate of one to one. The monetary base of demand deposits remained the US dollar. The NBL was not conceived as a central bank, but rather as a clearing house for cheques, and its only instrument of monetary policy was that of required reserves.

Table 22 indicates the evolution of the quantity of coins and demand deposits as a fraction of GDP. The GDP figures refer to the formal monetized sector. If we assume the bench-mark of 20 percent as the normal ratio of M1/GDP, a rather underestimated ratio, the share of US dollar bank notes within the total quantity of money can be roughly calculated. During the second half of the 1970s, the share of coins plus demand deposits amounted to an annual average of 8 percent of GDP. Consequently, dollar bank notes, approximately equal to 12 percent of GDP, constituted the greater part of the amount of money in circulation.

The riots in April 1979 and the coup of April 1980 gave rise to expectations of the future inconvertibility of the Liberian five-dollar coin and of demand-deposits (and, *a fortiori*, of time and savings deposits) into US bank notes. During the 1980/81 period, demand deposits were reduced from US\$58 million to US\$38 million (and time and savings deposits from US\$82 million to US\$51 million), i.e. a total reduction of US\$51 million in

TABLE 22

Liberia: coins and demand deposits as percentage of GDP, 1974-86

	1974-79	1980	1981	1982	1983	1984	1985	1986
 (% of GDP)							
Liberian dollar coins	1.37	1.24	1.31	1.77	2.37	3.42	5.69	7.86
Demand deposits	6.78	5.87	4.29	5.14	6.34	7.27	8.32	9.76
Coins plus demand deposits	8.15	7.11	5.60	6.91	8.71	10.69	14.01	17.62
Ratio of coins to demand deposits	20.50	21.08	30.63	34.45	37.78	47.05	68.44	80.52
Bank clearings (monthly avg.)	66.30	103.70	—	69.69	60.40	35.46	22.14	15.77

Source: Table 23.

deposits, representing more than one-third of total deposits. The withdrawal of deposits was equivalent to an outflow of US bank notes from commercial banks and from the NBL. The main burden was borne by the NBL, whose international reserves fell from US\$55 million in 1979 to US\$5 million in 1980. As a matter of course, US bank notes were no longer used as a means of payment. Consequently, the 1980/81 period was marked by a high liquidity shortage.

A second period of monetary events began roughly in 1982. In 1981, the ratio of Liberian coins plus demand deposits declined to 5.6 percent of GDP. From 1982 onwards, the ratio increased continuously and reached 17.6 percent in 1986 (while it was at 8 percent in the 1970s). The year 1982 saw the first creation of Gresham's "bad money". On the one hand, the Liberian five-dollar coins were increased from US\$11.6 million in 1981 to US\$66.1 million in 1986. On the other hand, demand deposits rose from US\$37.8 million to US\$82 million (Table 23). But neither the Liberian coins nor the demand deposits were convertible into US dollars at the official exchange rate of one to one. A parallel foreign exchange rate market developed where the Liberian dollar continuously depreciated over time. In early 1988, the

TABLE 23
Liberia: quantity of money (coins and deposits), 1974-86

	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986
	(millions of Liberian dollars)												
Currency (coins)	8.48	7.97	8.36	9.24	10.19	11.00	11.35	11.59	15.74	19.83	28.59	46.17	66.06
Demand deposits	36.41	30.67	50.42	43.19	60.01	58.54	53.85	37.84	45.69	52.89	60.76	67.46	82.05
M1	44.89	38.96	59.25	53.17	72.47	72.56	65.59	49.89	61.65	72.98	89.43	113.71	148.21
Time & savings deposits	30.14	34.96	49.62	69.10	78.51	82.17	48.95	51.05	65.04	69.13	54.96	57.04	53.94
M2	75.03	73.92	108.88	122.27	150.97	154.73	114.54	100.94	126.69	142.12	144.39	170.75	202.15
	(% of GDP)												
Currency (coins)	1.67	1.31	1.32	1.31	1.32	1.25	1.24	1.31	1.77	2.37	3.42	5.69	7.86 ¹
Demand deposits	7.18	5.03	7.98	6.11	7.76	6.65	5.87	4.29	5.14	6.34	7.27	8.32	9.76 ¹
M1	8.85	6.34	9.30	7.42	9.08	7.90	7.11	5.60	6.91	8.71	10.69	14.01	17.62 ¹
Time & savings deposits	5.94	6.39	7.85	9.78	10.15	9.33	5.34	5.79	7.31	8.28	6.58	7.03	6.42 ¹
M2	14.79	12.73	17.15	17.20	19.23	17.23	12.45	11.39	14.22	16.99	17.27	21.04	24.04 ¹
Bank clearings (monthly avg.)	39.98	46.88	57.55	65.75	85.27	102.38	103.70	—	69.69	60.40	35.46	22.14	15.77

¹ There is no available figure for GDP in 1986. Consumer prices rose by 3.5%. We assumed that real GDP remained constant. The estimated GDP was 840.2 million Liberian dollars.
Source: IMF, IFS.

exchange rate was roughly two Liberian dollars for one US dollar.

While the Liberian five-dollar coin is entirely distinct from American currency, the Liberian dollar demand deposits evolved only gradually into a depreciated money substitute for the US dollar. It was mainly the Liberian government which used demand deposits as a means of payment. At the very beginning, cheques were cleared (partially or fully) in US dollars by the mechanism of increased reserve requirements. When the commercial banks presented the cheques to the NBL, the government increased the ratio of required reserves (to be paid by banks in US dollars) and used them to clear the cheques. However, since there is a limit to the rise of reserve requirements (in 1974, reserve requirements were 7.5 percent but in 1985 they were 30 percent), neither the government nor the banks could honour the cheques except in terms of the Liberian five-dollar coins. As Tables 22 and 23 indicate, the clearing of cheques has been continuously reduced since 1982, even though the total volume of demand deposits increased steadily. People who held cheques used them as a payment surrogate and they became negotiable at a considerable discount. The growth rate of coins was considerably higher than the growth rate of demand deposits. There were two explanations: the government's easy access to coins financed its expenditures, while the public had a preference for coins compared with the less liquid and discounted cheques.

Another substitute for Liberian coins and demand deposits was the issuance of duty drawback certificates. Initially, these were given as a means of payment to importers for customs duties on future imports. They became negotiable instruments among the business sector at an increasingly higher discount rate, since later on they were also issued by the government against "fictitious" imports. Vouchers were similar to duty drawback certificates. When the government purchased domestic goods and services, it issued vouchers as claims on future payment, which also became a highly volatile negotiable payments instrument. Thus, the public sector could pay part of its expenditure (civil servants' salaries remained generally in arrears for two-to-three months) by future claims on itself, which were regarded by the private sector as highly imperfect payment surrogates.

Another type of money substitute was the Limited Power of Attorney

(LPA) system. Permanently employed people, mostly civil servants, pledged their future salaries. Thus, they purchased goods against this special type of credit. The LPA claims evolved equally into a means of payment. With increasingly irregular salary payments, they depreciated correspondingly, losing more and more of their intrinsic worth.

THE URGENT NEED FOR CURRENCY REFORM

There is no doubt that currency reform is the most urgent policy measure to be implemented in the Liberian economy. The IMF and the World Bank must have come to the same conclusion during the last few years, even though we do not know their precise proposal for currency reform. From a purely theoretical point of view, Liberia's future monetary arrangements have to take into account the following considerations:

1. A prerequisite for a future stable currency is a balanced budget. Lowering government expenditures and increasing taxes by an appropriate reform of the tax system, is the only way to achieve this target. As a matter of course, the present political regime would be endangered by these necessary budgetary measures, which explains resistance to reform. To the extent that the fiscal-monetary programme is credible and well-intentioned, financial assistance by the IMF and the World Bank is indispensable for smoothing over the transition period.
2. Budgetary reform constitutes the anchor for confidence in a new Liberian currency. One way to develop the present embryonic currency (Liberian five-dollar coins) into a fully fledged currency status would be to make the parallel market of foreign exchange official. A freely floating exchange rate with respect to the US dollar would lead to its re-emergence as a parallel means of payment. It has been out of circulation since 1979. A necessary condition for the co-existence of both currencies is the removal of any foreign exchange restrictions. Demand deposits in Liberian dollars could be promoted, provided the interest rate on deposits is allowed to be determined by market forces.
3. The crucial and probably most controversial point concerns the source of the monetary base of Liberian dollars at its initial state. The ideal solution is for the monetary base to consist exclusively of international

reserves obtained through foreign credit. This solution would imply that the outstanding volume of Liberian coins created in the past would be backed by US dollars valued according to the same exchange rate. The other extreme possibility for the source of the monetary base is domestic credit, which would not be favourable to the creation of long-term monetary confidence. In both cases, a floating exchange rate between the Liberian and US dollars has to be maintained without any intervention by the Liberian central bank. The only interventions to be permitted would lead to a change in the monetary base. Consequently, an increase in domestic currency should only be brought about by a surplus in the balance of payments.

4. If the two-currency system proves to be operational and stable during the first years of its existence, a return to a fixed exchange rate system is fully conceivable. Since Liberia is increasingly involved in foreign trade with European countries, a peg to a European currency is also plausible.

A currency reform proposal should be elaborated by an independent group of experts (academics and officials from the central bank) on Liberian initiative, the financial support for which has to come from foreign sources, including foreign central banks or foreign foundations.

REFERENCES

- Clower, R. et al.** 1966. *Growth without development*, Envanston.
- Dunn, D.E. & Tarr S.B.** 1988. *Liberia: a national policy in transition*, p.: 126-127. Metuchen, N.J.
- FAO.** 1987. *World Tables*, Rome.
- Harbeson, J.W.** 1985. Integrated agricultural development and agricultural policy in Liberia, *Rural Africana*, Spring, p.. 3-24.
- Humphreys, C.P. & Rader P.L.** 1981. Rice policy in the Ivory Coast, *Rice in West Africa*, p.: 15-60. Stanford.
- IMF.** 1987. *Liberia: recent economic development*, 24 July, p.: 25, 42-43. Washington, D.C.
- Ministry of Planning, Government of Liberia.** (various years). *Economic Survey of Liberia*.
- Monke, E.A.** 1981. Rice policy in Liberia, *Rice in West Africa*, p.: 109-140. Stanford.
- Monke, E.A.** 1981a. The economics of rice in Liberia, *Rice in West Africa*, p.: 141-172. Stanford.
- World Bank.** 1982. Liberia: Recent economic developments and medium-term prospects, 30 December. Washington, D.C.
- World Bank.** 1987. *World Development Report 1987*, Washington, D.C.

6. Zambia: the destructive effects of its exchange rate policy

In the context of the present report, the case of Zambia is particularly interesting. This is a country with considerable agricultural possibilities, but whose exports have been traditionally copper and other minerals. The structural change from these declining activities to others, mainly agriculture, has not been made during the past decades. Sectoral and macro-economic policies bear the greatest responsibility for this situation. Moreover, in Zambia can be found the main features of the business cycle described in Chapter 2. This evolution has also been detrimental to agriculture. The current serious difficulties cannot be overcome without drastic structural and stabilization measures, which would unavoidably have serious implications for agriculture. However, the situation in agriculture may even be worsened in the absence of such policies.

GENERAL ECONOMIC CONDITIONS AND ECONOMIC POLICIES IN ZAMBIA

Zambia provides a particularly clear example of the impact of general economic conditions on agriculture. The following is a short summary of the country's economic framework and its recent main economic policy decisions.

Zambia's economic potential

Zambia occupies an area of 752 000 km², has 6.6 million inhabitants (9 people per km²), and its population increased at 3.5 percent a year during the early 1980s. Its urbanization is one of the highest in sub-Saharan Africa (45 percent), mainly in the copperbelt region. The current difficulties are even more striking since, according to an official international report,

“until 1975, Zambia was one of the most prosperous countries of Africa, south of the Sahara”. In 1986, GDP fell to about US\$100 per caput.

Until recently copper accounted for about 90 percent of total exports. But the price of copper fell from kwacha (K)93.23/lb in 1974 to K56.10/lb in 1975. Copper production fell from 750 000 tonnes in 1969 to 479 500 tonnes in 1985. Except for 1979/80, the price of copper has remained below its 1974 peak, even in current prices. The late 1970s and early 1980s are thus characterized by a series of recurring foreign exchange crises, increasing debt, and falling output. However, these events would not have happened if incomes in the country had been distributed in accordance with revenues from copper sales, if there had been a restructuring of economic activity involving a shift from mining to agriculture, and if the debt incurred had not been used for wasteful projects. The transformation was not made, however, despite the fact that Zambia has great agricultural potential.

As in other countries, there was a cyclical evolution and the simultaneous occurrence at the beginning of the 1980s of decreasing export revenues, increasing debt repayments and a narrowing access to international credit, called for a macro-economic adjustment consistent with diminished resources. All sectors suffered from the downturn; nevertheless public expenditures continued to increase steadily.

Recent economic developments

There have been three economic plans: during the first one (1966-70), the realized annual growth rate was about 10.6 percent due to booming copper prices; during the second (1972-77), overall annual growth rate was at 4.5 percent (targeted growth was 6.8 percent) with growth rates of 4.5 percent in manufacturing, 3.6 percent in agriculture and 2.8 percent in the mining sector. The third plan (1980-84) did not reach its objectives because of a fall in copper prices and poor crop output, due to climatic conditions and inappropriate agricultural policies.

The fourth plan (not yet published at the time of this study), would allow for a US\$1 699 million investment, which would include US\$1 432 million foreign funding, of which 26 percent of the total would be allocated to agriculture.

The restructuring policies agreed on with the IMF during 1982-84 implied:

- Providing sufficient incentives for exports and production of agricultural and manufacturing commodities;
- Creating greater competition in the procurement and selling of food crops;
- Improving planning and budgetary procedures to shift resources to productive investment;
- Using wage and interest rate policy to reverse past policies of increasing consumption and declining investment; and
- Ensuring the competitiveness of exports through an active exchange rate policy.

In 1983, there was a programme to restore financial stability. Standby arrangements with the IMF and rescheduling agreements with the Paris Club were agreed on at that time. Meanwhile export revenues continued to decline, imports for manufacturing firms were in short supply and output was running at 30 percent capacity, while inflation accelerated and arrears increased.

The foreign debt was estimated at US\$4 000 million at the end of 1986 (US\$5 100 million by 1 May 1987). The debt service covered about 60 percent of foreign exchange resources in 1986 and this proportion was to increase.

In 1985, Zambia adopted an IMF package to revitalize the economy. The following reforms were introduced at that time:

- The introduction of an auctioning system for foreign exchange, instead of a fixed rate system with an overvalued currency and exchange controls;
- The liberalization of foreign trade;
- The decontrol of interest rates with a daily auctioning of treasury bills; and
- Structural reforms (e.g. increases in consumer and producer prices for maize, and a decrease in subsidies).

An agreement with the IMF in 1986, for an amount of Special Drawing Right (SDR) 298.6 million, under the compensatory financing facility and a standby arrangement, made provisions for the use of the auction system,

the liberalization of trade policies and interest rates and prices, and stricter monetary and fiscal policies.

The programme thus implied an auction of the national currency, the kwacha. Each week, the central bank announced the amount of exchange available and the kwacha was sold at the lowest price corresponding to the amount of exchange available.

The auction system began in October 1985. The exchange rate fell from K2.2/\$ in October 1985 to K12.71/\$ in December 1986, and it even reached K20/\$ in April 1987, which is clear evidence of the fact that the kwacha was overvalued. Sixty percent of the demand for foreign exchange came from the industrial sector. This depreciation of the kwacha nevertheless caused an increase in the prices of many manufactured products with a high import content (e.g. 100 percent for petroleum products and bread, 40 percent for sugar).

Officials from Zambia claim that small producers could not get foreign exchange. In fact, the auction system worked well, and many small producers managed to obtain foreign exchange. Contrary to what was claimed by officials, it was easier than before for farmers, particularly commercial farmers, to obtain foreign exchange for their imports with the auction system. After the return to a fixed rate with exchange controls, agriculture obtained less than 10 percent of foreign exchange allocations. Domestic producers of fertilizers could not import raw materials, which were indispensable for their production.

Early in 1986, the marketing of agricultural products was decontrolled. All crops could be bought and sold by anyone, subject to minimum gazetted prices. Above this level, producer organizations or individuals were free to negotiate higher prices with purchasers, except in the case of maize. Gazetted prices were to be published early in the year after negotiations with the Prices and Incomes Commission.

In November 1986, the removal of controls on the price of breakfast "mealie-meal" (maize flour) and the removal of subsidies on maize increased the production of these commodities. But the government went on subsidizing maize for roller meal. Mealie-meal prices doubled, causing social unrest and strikes, mainly in the copperbelt.

In December 1986, the previous measures, adopted in agreement with the IMF, were cancelled, maize was subsidized again and private mills nationalized.

The auction system was suspended on 29 January 1987, when the exchange rate was K14.92/\$. The kwacha was then linked to a basket of five currencies (with a rate between K9-12.50/\$).

On 17 March 1987, a unified auction system was reintroduced (except for health and education needs).

The rate went up to K15/\$ at the first auctioning.

On 1 May 1987, President Kaunda announced the breaking off of relations with the IMF, and Zambia adopted a new policy implying:

- price controls;
- limitations on the debt reimbursement to 10 percent of exports (after deduction of payments to ZCCM and Zambia Airways);
- a fixed rate for the kwacha K8/\$). At the last auction, the exchange rate had been K21/\$, which meant that an exchange rate of K8/\$ was certainly greatly overvalued;
- import licences, which, in principle, were to be supplied only for "essential goods", raw materials and equipment.

This new policy has been described in a programme called the "New economic recovery interim national development plan". The official aim of the plan was to control inflation by controlling the exchange rate. This target seems unachievable, given the rate of increase in the quantity of money and the public deficit. The plan sets a target of 15 percent for growth in agricultural production within two years, with self-sufficiency for staple foods and expansion of agricultural exports and import-substitution for food.

As a consequence of the new policy, imported inputs are more and more difficult to obtain. Instead of an appreciation, a depreciation of the currency would have been necessary, given diminished foreign earnings and assistance flows and the great part of available foreign resources pre-empted by the government and public firms.

The monetary policy remains very expansionary, with high borrowing from the central bank. The real interest rate is negative and savings are almost non-existent.

MAIN CHARACTERISTICS OF AGRICULTURAL ACTIVITIES

Maize is the main agricultural commodity in Zambia. It was introduced by the English, and is now the basic staple, despite the fact that other commodities with similar characteristics could be produced at a lower cost. The production of maize marketed in 1985/86 was 10.2 million bags, about 930 000 tonnes (40 percent came from commercial farmers and the remainder from the 450 000 traditional smallholders.) This implies that highly productive systems of production could be developed in the country. Domestic consumption was about 720 000 tonnes in 1986, so that there was a surplus.

Wheat production was about 30 000 tonnes in 1985/86. With consumption at about 40 000 to 80 000 tonnes, the gap was filled with imports from the United States of America, Canada and the Netherlands.

Zambia produces, in relatively small quantities, diverse export commodities such as: coffee, sunflowers, cotton, tobacco, groundnuts, paddy, strawberries and mangoes.

Three types of farmers can be distinguished in the country:

- subsistence farmers, who produce maize and other staple commodities with a maximum of 5 ha and, possibly, one ox;
- emergent farmers, with 30 oxen, a tractor and fertilizers; and
- commercial farmers, who work one of about a dozen very large farms, using mainly German or American and, sometimes, Zambian capital.

According to Pearce (1987) "80 percent of rural households achieve an income equivalent or below the poverty line" and "the number of medium-scale farmers has grown considerably in recent years". In fact, there is no major difference between emergent farmers and traditional ones, except for the fact that emergent farmers are more market-oriented and use purchased inputs on a limited scale.

The number of large-scale farmers has decreased since independence. However, "they produce over 30 percent of Zambia's marketed maize, almost 50 percent of its beef, all of the Virginia tobacco, etc." (Smith & Wood, 1984).

Maize constitutes about 90 percent of all marketed cereals. Most of it is marketed through official channels, but it is estimated that 10-30 percent is

illegally exported to Zaire.

According to the Commercial Farmers Bureau, Zambia is "the sleeping giant of African agriculture". It has vast agricultural potential, as yet largely unexploited. Within the country, there are approximately 24 million ha of class 1 and 2 arable land, of which only 5 percent is being utilized at present. Agriculture was the only sector in 1984 showing positive growth, and in 1985 it grew by 9 percent.

From a detailed survey made by the Provincial Planning Unit of the Lusaka Province in 1984, it appears that only 20 percent of good soil around Lusaka is under cultivation, yet maize is being transported to Lusaka at great cost from more remote parts of the country. There are also great possibilities for an increase in productivity in the province.

One main obstacle to the expansion of agriculture is the fact that all land is state-owned. All commercial farmers get a lease from the government (99 years in most cases). Other farmers get a licence, but they are allowed to sell only the improvements they have made, not the land itself.

As for imports, essential agricultural machinery and raw materials, including agro-chemicals, are mostly duty free. However, the present exchange system makes it difficult to obtain the necessary foreign exchange.

The current exchange rate policy assists emerging and commercial farmers only in part with low imported input prices; strict quantitative restrictions hinder large farms almost to the same extent as the overvalued exchange rate hinders agricultural export promotion.

The outlook for agriculture deteriorated in 1987. Before the decisions taken on 1 May, 1987 the exchange rate was favourable for exporters; spare parts for repairs were easily obtainable. In 1987, the new exchange rate policy made exporting much more difficult, and there was a lack of imported inputs, except for fertilizer. Since that time the rate of inflation has been high, but the prices of agricultural products have not risen in proportion.

The only possibility for agriculture to develop could be through exports. The monopolistic public organizations have so much influence that they can prevent exports if they wish. At the present time, it is forbidden to export wheat or oil seeds, but cotton, groundnuts, tobacco or vegetables may be exported.

Large, efficient farms were often developed by foreign capital in the past. Foreigners have no desire to invest into Zambian agriculture, since they fear price and exchange controls or nationalization. For instance, in order to settle peasant farmers the government recently announced the nationalization of a German-American farm, which was the largest tobacco producer. This policy was particularly questionable as there is still a large amount of unutilized good arable land elsewhere. In this case, the final decision has been postponed, but the uncertainty remains. Moreover, the owners are tempted to use bribery in order to prevent such decisions from being taken or implemented.

In another incident, a Zambian parastatal decided to develop the production of barley, with the support of a Belgian investor. To that end, many farmers were displaced. This only goes to show that not only foreign investment, but even domestic investment was or is being discouraged.

Commercial and emergent farmers expected that there would be some progress with the IMF programme. However, now they have their doubts; and the same can be said of small farmers.

Another factor has aggravated the agricultural situation, namely the donation of wheat aid by Australia and the United States of America. This policy has been stopped for the time being, but Canada is pursuing it. These donations discourage local production and reinforce the monopoly power of the public mills, which process the wheat.

MAIZE AND THE MARKETING SYSTEM

State intervention in marketing dates back to the colonial period. After independence, the marketing system was extended in order to offer services to remote farmers.

The most important institution for the marketing of agricultural products is the National Agricultural Marketing Board (NAMBOARD). It was founded in 1969 as a monopoly for the purchase of all grains and the distribution of necessary inputs. For a long time, NAMBOARD's main objective has been to provide maize at a low price to miners and industrial workers. NAMBOARD is a huge parastatal which is in charge of providing food at "reasonable prices". Apart from maize, it has also been in charge of

fruit, vegetables, cotton, sunflowers, beans, rice, etc. It also has a monopoly in imported fertilizer and some responsibility in agro chemicals. However, the extent of NAMBOARD's activities has been reduced. In 1978, its responsibility regarding seed cotton was transferred to the Lint Company of Zambia, Ltd. (LINTCO), that concerning horticultural products went to the Zambia Horticultural Products Board (ZAMHORT); and in 1981, the Zambia Seed Company, Ltd. (ZAMSEED) was given the responsibility for importing and distributing seeds and pesticides. For some time pesticides could be imported by private firms, but as they could not obtain the necessary foreign exchange, NAMBOARD took back the responsibility for these imports.

Until about 1980, NAMBOARD had the monopoly for marketing maize all over the country. Around 1980/81, the responsibility for primary marketing and intra-provincial trade was transferred to the Provincial Cooperative Unions. Now cooperatives are responsible for collecting the crops which they sell to NAMBOARD, which, in turn, sells to mills (which nationalized in 1986). The flour bought by the government is sold in public stores. When it is bought by private traders, the government pays a subsidy and the selling price is controlled. NAMBOARD's present responsibilities concern mainly international trade and inter-provincial trade for maize and fertilizers, and the handling of national maize reserve stocks. The cooperatives sell maize to the mills. The surpluses which are not absorbed within the regions, are bought by NAMBOARD which sells them to areas where they are needed. The millers get subsidies and NAMBOARD's costs are covered by the government.

In principle, NAMBOARD has two main functions: to stabilize prices over time; and to transfer subsidies for commodities and inputs.

In order to favour its urban citizens, miners and industrial workers the Zambian authorities, as in many African countries, impose low prices for food, mainly through subsidies, particularly of maize.

In accordance with its agreements with the IMF, in 1983 the government adopted a policy of liberalization, particularly in agriculture. In 1986, it was announced that the maize price would be liberalized for the 1986/87 season. Furthermore, the World Bank put pressure on the government to eliminate

subsidies.

Since 1 May 1987, agricultural prices are no longer determined by the Ministry of Agriculture, but by the Prices and Incomes Commission. This change may be an improvement, since previously, the Ministry of Agriculture was obliged to apply the general policy in favour of low prices for consumers, whereas the Commission seems more inclined to giving incentives to producers. However, the policy depends on the discretionary decisions of one person, the Commissioner of the Prices and Incomes Commission.

NAMBOARD is heavily dependent on government price decisions and on high operating costs. To cover its costs, it has to get subsidies from the government; these have occasionally exceeded its sales revenues. For example, in 1987, the price of maize was K80 for a 90 kg bag; and the subsidy was K20.

One main feature of the NAMBOARD system is that maize prices are the same all over the country, even in places where sorghum or millet could be produced efficiently. It is said that "people prefer maize". In fact, they prefer what is subsidized. This system of uniform pricing for maize (and fertilizer) encourages production in remote areas, prevents private trading in these areas and induces storage by NAMBOARD instead of farmers (World Bank, 1985).

The consequence of this policy has been the neglect of maize production in areas better suited to it, due to natural factors or to proximity of transportation, especially the railway. Similarly, it is not at all certain that maize is the best commodity for remote areas. The fact that maize was introduced as a staple rather recently, means that "food habits" can be modified and, in that respect, price incentives are important. This policy entails higher budgetary costs and implies that producers are included in a production system more heavily dependent upon imported factors of production (seeds, fertilizers, etc.).

Equity pricing stimulated production in areas remote from consumer demand, where costs of access were high.... The consequence was that an increasing proportion of the surplus product which NAMBOARD had an obligation to handle was grown in areas in which

marketing costs were in excess of the marketing margins allowed by government (Kydd, 1986).

Moreover, the possibility of farmer mobility ought to be considered, as there is plenty of good land available in areas that benefit from easy access. Differentiated prices would have enhanced such mobility.

There is no incentive to improve the management of NAMBOARD, since government subsidies are computed on a cost-plus basis. The performance of NAMBOARD was evaluated by the World Bank (1985) using the ratio of cost to sales. This ratio has decreased over time.

As Kydd (1986) says:

NAMBOARD was both a cause and a victim of the government's inability to contain maize subsidies. In the subsidy system that evolved, producer and consumer prices were set with little regard for the eventual cost. Producer prices were set after consultation with farmer's organizations, in which the agreed basis for price determination was costs of production.... Once the government had decided on the target volume of maize production and the producer price, then the two variables it had left to juggle with were the consumer price and the level of subsidy. Prior to the 1983 IMF programme, the consumer price was of more concern to the government than the cost of the subsidy. During this time, the size of the maize subsidy was effectively a residual, the product of three variables which the government was actively managing, i.e. producer prices, consumer prices and production targets.

The World Bank (1986) suggests that inadequate foreign exchange availability has impaired the working of NAMBOARD. Its needs have not been accorded the right priority by the Bank of Zambia, and NAMBOARD has often kept unnecessary stocks of fertilizers in order to meet possible foreign exchange scarcities. The lack of foreign resources has also reduced the efficiency of transport facilities (lack of spare parts, tyres, etc.), and it has been more difficult to transport maize, especially from surplus to deficit areas.

The importance of transport issues is stressed by the World Bank (1985). Planning of transport for maize and fertilizers is difficult, as is the coordi-

nation between cooperatives and NAMBOARD. The system of fixed transport rates introduced by the government in 1983 prevents any flexibility in the negotiation of prices between NAMBOARD and independent transport firms. The cost of rail transport is lower, but there is a lack of wagons. The general disorganization of the country, due to its macro-economic problems, has had an inevitable adverse impact on agriculture.

According to Kydd (1986), NAMBOARD's financial crisis in 1985 "may in part explain the necessity to import food in 1986". The IMF asked for an increase in the consumer price to limit credit and grants to NAMBOARD, but "even the 50 percent increase in the consumer price of maize in mid-1985 (the maximum increase judged politically tolerable) was insufficient to meet NAMBOARD's requirements for additional funds".

As already mentioned, in 1978-81, marketing responsibilities were transferred from NAMBOARD to the nine regional cooperatives. The result has been a disaster, since "the cooperatives exhibited worse mismanagement and corruption than had been experienced under NAMBOARD and also suffered from the liquidity crisis" (Kydd, 1986).

In late 1982, the liberalization process, under pressure from the IMF, led to a freeing of prices for all agricultural commodities, except maize and wheat. However, for those two commodities, the official price became a "floor" price and farmers were allowed to make contracts with whomever they wished. Many large-scale farmers benefited from this liberalization, clearly showing that controlled producer prices were lower than "normal" prices. Liberalization had no major consequences for small-scale farmers, however, as the element of competition was missing, due to a lack of privately owned processing facilities. This means that liberalization needs time for its positive effects to be registered, but that it has to be as comprehensive as possible (e.g. liberalizing producer prices without privatizing or liberalizing mills and transport may not bring much benefit).

As is stressed by Kydd (1986), NAMBOARD reinforced the specialization in maize, since maize benefits from a stabilized price, but the monopoly of NAMBOARD implies high management costs, long delays in obtaining inputs, or "timely payments for crops purchased".

In Zambia, the policy has not been one of a systematic transfer of resources

from farmers to the urban population via the price system. In that sense, it may be said that there was a real agricultural target (and even two: the producer price and equity pricing between areas). However, as the consumer price was also a target, the government felt that, in order to reconcile these targets, it was necessary to have an institution, NAMBOARD, to link production and consumption. With the natural propensity of bureaucratic organizations toward expansion, NAMBOARD did not act only as a distributor of subsidies, but also as an actor in the production and marketing process, where it obtained a monopoly position to provide inputs and to market output. Agriculture, despite declared objectives, also suffered indirectly from the general economic situation of the budget deficit in which the working of NAMBOARD plays a significant role. Subsidies for maize and fertilizer represent about 25 percent of the public budget, and so are responsible for part of the deficit and the macro-economic disequilibrium.

During the 1970s, the increasing cost of subsidies was a main factor of the financial crisis.

The consequence was a regular liquidity crisis in the marketing system, which appeared ... in a more acute form in each subsequent year of the 1980s. The repercussions of these liquidity crises were that large surpluses of maize (and other products) were left either unpurchased or, if purchased, not paid for (Kydd, 1986).

This means that the cost borne by agriculture is reflected not only in the producer price, but also in more qualitative aspects (implicit taxation), which are sometimes difficult to ascertain, as are the long-term disincentives that result from such a situation.

There is no official marketing system for traditional products (millet, sorghum and cassava), but "individual sales are small and unpredictable, marketing costs high and conditions less than propitious for the burgeoning of a flourishing private market" (Pearce, 1987).

Tobacco is the main export crop and it is privately traded. A small number of estates produce sugar, coffee and tea which, except for sugar, are marketed by specialized parastatals.

In principle, only the prices of maize and wheat are determined by the government. However, for other commodities, it is difficult for farmers to

negotiate prices higher than the floor prices decided by the government, because mills or other intermediaries in the marketing process are public organizations with local *de facto* monopolies. There is no legal requirement to sell output to parastatals. However, a very small proportion of production is freely sold because farmers lack mills, oil-processing factories or appropriate machinery. Either they do not obtain the necessary exchange to buy the inputs or they dare not invest in such equipment, since they fear a future nationalization.

The Commercial Farmers Bureau had some success in negotiating floor prices with the government. Anyhow, future prices are always uncertain, leading to disincentives for agricultural production.

THE ROLE OF INCENTIVES

The role of prices in agricultural production in Zambia can be summarized as follows:

1. Farmers are responsive to price incentives;
2. There has not been a continuous and obvious policy of underpricing agricultural products;
3. In recent years, there has been an obvious deterioration in the agricultural sector during stabilization policies; and
4. Structural adjustment is needed, in which a proper price policy is essential.

Farmers are responsive to price incentives. Zambian officials have often believed that it is not necessary to pay a higher price for agricultural commodities than the break-even point computed from production costs. They falsely believed that farmers produce in any event. There is, in fact, a high responsiveness of production to prices. Farmers can shift rapidly from one commodity to another, according to the prices they obtain.

With regard to wheat for example, a significant increase in the price paid to producers resulted in an increase in wheat production, from 4 400 tonnes in 1983/84 to 30 000 tonnes in 1985/86, showing a very high responsiveness to prices. In 1984, parallel to the policy of steady devaluation of the kwacha, agricultural prices were increased by 12 to 42 percent, and price controls were relaxed on many items. The overall GDP declined in 1984, but the

value added in the agricultural sector, rose 10 percent. This was due partly to favourable climatic conditions, but also to a rapid response to price incentives by an extension of cultivated land.

From 1980/81 to 1982/83, production of maize fell from 693 000 tonnes to 458 000 tonnes, which reflected bad weather conditions, but also a limited increase in producer prices. Production rose to 571 000 tonnes in 1983/84, despite continued drought, and the producer price increased by nearly 34 percent.

Between 1980/81 and 1984/85 cultivated areas increased 59 percent for cotton, 79 percent for rice, and more than 100 percent for soybeans, while producer prices rose 46-50 percent for cotton, 68 percent for soybeans and 115 percent for rice. These figures indicate a very rapid response of agricultural production to prices.

Small farmers have been included in the monetary sphere of the economy for a long time, which means that they are able to react significantly to incentives, affecting either production structure or market prices. The small farmer's first concern is subsistence, but whatever he or she can obtain beyond this minimal level is marketed and responsive to price. Emerging farmers are more and more numerous and, like large farmers, they are very price responsive.

From the experience of UNDP, it is quite obvious that low-income farmers are able to learn by doing and observing. Some UNDP programmes are at the individual farmer level. They aim to show the feasibility of new production. Inputs are freely given during the first two years, then farmers have to pay for the third year. There is a natural process of diffusion of knowledge, as relatives and neighbours come and observe new technologies.

There has not been a continuous and obvious policy of underpricing agricultural products, contrary to what has occurred in many other African countries. However, the evidence is not completely coherent and judgments may vary according to the periods and products considered.

From calculations made by Krueger, Schiff & Valdes (1988) (quoted in Chapter 2), there has been negative protection for cotton in Zambia. With regard to maize, authorities have constantly pursued a policy of low con-

sumer prices. However, and contrary to the cases of many other countries, it is not quite certain that farmers have had to bear the main direct cost of this policy. Production prices have been fixed steadily at a relatively high level and the low consumer price has been made possible by large subsidies paid through NAMBOARD. Table 24 shows that, for a long time, purchase prices have been even higher than "normalized" sale prices (defined as the prices which would prevail without subsidies), as computed by the World Bank (1985). This means that farmers have shared part of the benefits from subsidies. However, this relative "protection" is variable and decreasing. For inputs, the situation has been even more variable. The purchase price of inputs bought by NAMBOARD and sold to farmers has been either lower or much higher than sale prices (Table 25). In view of the above, the following tentative conclusions are suggested:

- The variability of the implicit subsidy (or "tax") obtained by the farmers causes uncertainty and may impair a steady development of agriculture. In that sense, NAMBOARD is not a stabilization institution but rather a means through which the government implements its policy. According to general economic and political circumstances and policy targets, it transfers resources to or from farmers and it more or less subsidizes urban consumers. In this way, one institution is used to reach several targets: to determine the purchasing power of producers and consumers and, possibly, to stabilize prices or farmer incomes. It is quite impossible to reconcile all these targets, particularly if constraints on available public resources are taken into account.
- There may be other causes of implicit taxation (effective protection, non-availability of resources, etc.). In particular, the "normal" price of a tradable commodity, such as maize, largely depends on the exchange rate. The large overvaluation of the kwacha decreases the "normal" price computed by comparison with world prices.
- Funds transferred from the general budget to NAMBOARD are one of the causes of the public deficit and financial difficulties, which have indirect effects on agriculture. The subsequent so-called "balance of payments" deficit induces controls which make imported inputs of farmers much more difficult to obtain.

Some observers are more critical about the agricultural price policy of Zambia. Thus, Pearce (1987) notes: "One of the major criticisms of agricultural policy in Zambia and therefore an immediate target for reform is the lack of incentives to agricultural production provided by official producer prices". He quotes also from an IFAD study which notes that "prices offered by the private sector are three times the official price in the case of cassava and twice the official price of groundnuts.... However, with the exception of maize and tobacco, production has increased for those crops for which official marketing channels exist and operate, and has declined for those traditional crops primarily produced by the subsistence sector, and for which limited marketing facilities exist".

A World Bank study, (1984) finds positive effective rates of protection for all crops, except maize, produced by commercial and emergent farmers. As is summarized by Pearce (1987): "The study concludes that the high rate of effective protection reflects the high implicit subsidies within the marketing system, rather than direct incentives to agricultural producers".

Moreover, the proportion of the budget spent on agriculture has increased but remains small. It reflects mainly fertilizer and marketing subsidies, rather than investment.

In recent years, there has been an obvious deterioration in the agricultural sector during stabilization policies. Not being able to finance subsidies as large as in the past, the government tended to lower agricultural prices. It seems that self-sufficiency could be easy to obtain for wheat, and even for maize, with better incentives for producers. But the price of maize is too low. For instance, in 1987, it was decided to increase it by only 3 percent, whereas the inflation rate was higher than 50 percent.

The purchasing power of farmers has been greatly eroded in recent years, since the relative price of maize has decreased in comparison with consumption goods and inputs. The producer price of maize has not increased as much as that of basic commodities. Fertilizer is the main agricultural input. For a long time, fertilizers have been heavily subsidized, but the IMF and the World Bank have persistently recommended a liberalization of prices. This example makes it clear that liberalization has to be across the board. If not, farmers who do not constitute a politically important category may

TABLE 24

Zambia: NAMBOARD normalized trading ratios for maize, 1975-83

Year	Purchase price as % of sales price
	(%)
1975	127.8
1976	134.2
1977	130.8
1978	106.6
1979	106.7
1980	147.9
1981	86.1
1982	99.8
1983	98.1

Source: Derived from NAMBOARD's audited annual reports. (World Bank, 1985).

TABLE 25

Zambia: NAMBOARD normalized trading ratios for inputs, 1975-83

Year	Purchase price as % of sales price
	(%)
1975	41.1
1976	83.3
1977	140.3
1978	209.6
1979	92.7
1980	155.1
1981	139.9
1982	156.7
1983	93.5

Source: Derived from NAMBOARD's audited annual reports. (World Bank, 1985).

suffer in the stabilization period (which does not mean that stabilization should be opposed).

Moreover, at different periods during recent years, export crops have suffered from the overvaluation of the currency, for two reasons: directly because of the loss of competitiveness and indirectly because of the conse-

quent exchange controls.

Thus, there are two reasons why farmers may have suffered during a typical "stabilization period": overvaluation of the currency, and low producer prices with consumer subsidies was a deliberate outcome of government choice, contrary to IMF recommendations; while consumer subsidies, at the expense of agricultural producers, was similarly a clear political choice. Thus, Zambia seems to offer examples of the possible detrimental effects of stabilization on agriculture. However, these effects are merely the results of badly conceived macro-economic policies.

Political reasons explain the situation that prevailed in 1987 as the government was carefully considering the reactions of potential voters, since elections were to be held in the near future. Voters were concentrated in cities, whereas the farmers were dispersed and unable to organize themselves politically.

The New Economic Recovery Interim National Development Plan was intended to direct the country's "scarce foreign exchange" to top priority sectors. However, resources were scarce partly because of the policies adopted. In particular, an overvalued currency discourages exports and, therefore, foreign exchange becomes scarce. Without producer and export price incentives and with scarce inputs, Zambian agriculture is unlikely to make up for falling mineral exports. The New Economic Recovery Interim National Development Plan could thus be interpreted, not as an alternative stabilization policy, replacing the one which had been continuously supported by the IMF, but merely as the result of political pressure in a context of tight fiscal resources. The government partly shifted, therefore, to a policy of favouring urban citizens via lower producer prices, an overvalued currency and exchange controls that are not particularly beneficial to farmers.

These policies reinforce the trend toward urbanization, which is already strong in Zambia: in cities survival is easy because of the low prices of maize and other basic items. In the long run, this may reinforce the political bias against agriculture.

Structural adjustment is needed in which a proper price policy is essential. Zambia can no longer rely on copper to sustain its development process,

and the comparative advantage of agriculture is more and more obvious. The historically prevalent pattern was centred on mine workers and, as in any centralized economy, on the urban bureaucracy. The Zambian problem, thus, is not only one of shifting (material or human) resources from one sector to the other, but rather a social and political problem of accepting a change in the relative weight of different categories of citizens.

The basic economic reform needed liberalization of prices (including the exchange rate). Agricultural development is impeded by low prices, the necessity to sell to parastatals (which forbids, for instance, pineapple producers from selling directly to soft drink firms), and the uncertainties concerning the exchange rate system. Moreover, there are purely qualitative constraints to overcome. For instance, parastatals pay the farmers after long delays. Therefore, the latter prefer to produce commodities such as cotton or soybeans, for which they can rapidly obtain inputs and which are paid for within 30 days by private firms. The World Bank has several agricultural projects and wants to intensify its efforts in this direction (coffee, credit, agricultural research, diversification of productions, etc.). However, as Zambia has not paid part of its arrears, these projects have been stopped. The Zambian authorities are trying to direct foreign aid toward state farms. As one foreign observer commented: "Bilateral donors and beneficiaries are playing politics".

It is officially intended that the unemployed migrate from the cities back to rural areas. The relative return to activities in urban and rural areas, however, is biased by the fact that urban people are heavily subsidized (low cost housing, maize subsidies, etc.). Civil servants even have free housing.

The authorities have tried to increase the involvement of African farmers in the development and diversification of agriculture. The ways they chose, however, (government services, free distribution of seeds and fertilizer, cooperatives, etc.), did not produce the expected results, for reasons underlined in Chapter 2.

Services to small-scale farmers... are often poor and unreliable. Each year the collection of harvested crops is a major logistical problem and payment is often delayed, sometimes to the extent that it precludes farmers from obtaining loans in the following season. The

administration of credit is poor and its supply inadequate. Many state production schemes are now burdens on the national economy... (Smith & Wood, 1984).

Thus, far from improving the well-being of farmers, these policies aggravate the general macro-economic situation which, consequently, affects farmers negatively, through inflation, debt, etc.. Smith & Wood stress that producer price increases and tax incentives were used at the beginning of the 1980s by the government as the only solution, after realizing its "inability to encourage increased production by funding new projects and improved services". As mentioned in Chapter 2, with respect to the two divergent views about development policy in agriculture, the situation in Zambia gives clear evidence of the superiority of a policy based on incentives.

THE BUSINESS CYCLE

Zambia offers an interesting example of a case of economic instability caused partly by an exogenous shock (fluctuations in the price of copper and other minerals), linked with the traditional factors discussed in Chapter 2.

The price of copper fell 57 percent in real terms between 1970 and 1985. A severe adjustment was, therefore, necessary. Assuming that improvements in productivity were not sufficient, other solutions had to be found. Whatever measures were adopted, they would have to bring about a decrease in the relative return of production factors in mining. Theoretically, such an adjustment could be obtained by a decrease in nominal wages (or increases lower than the rate of inflation), or by a decrease in the exchange rate, assuming constant nominal wages (i.e. "exchange rate illusion" by workers). Both solutions were implicitly refused by the Zambian government. Part of the workers' purchasing power was determined in real terms (housing, education, maize subsidies, etc.) and, therefore, was downwardly inflexible, while the depreciation of the kwacha was resisted for reasons of prestige. These decisions, or absence of decisions, necessarily implied a transfer from agriculture to other sectors.

The present problems have been partly inherited from the illusions born

in the period of high copper prices (1964-75). At that time, everything seemed possible: free education, subsidies to maize consumption, road infrastructure, etc. This led to rigidities and difficulties for adjustment: those who benefited from these apparently free gifts could not accept a subsequent decrease in their purchasing power. Zambia is clearly a case in which the satisfaction of a small class of people, (civil servants and workers in the copperbelt) has been obtained at the expense of other categories (such as small-scale farmers and of the economy in general. When the price of maize was raised, for example, social unrest made it necessary to cancel the measure.

The external debt is now about four times the GNP. It has been used mainly to develop infrastructure: roads, large hospitals and universities. Recurrent costs are high, however, and cannot be financed easily. In 1987, annual payments and debt were roughly equal to export proceeds, and even aid programmes would have had to be diverted to cover debt repayments. In the authorities' view, this situation justified the decision in 1987 to limit debt repayments to 10 percent of export proceeds. By necessity, this implied an inward-looking policy. The official position is that the IMF was imposing too stringent conditions on Zambia, so that the government had to look for its own development policy. The real difficulty, however is that the situation has become worse, as the problems have not been solved, merely postponed and, therefore, aggravated.

AN OVERVIEW OF AGRICULTURAL PRODUCTION AND PROBLEMS

The *New Economic Recovery Interim National Development Plan* is proposing four main objectives for the agricultural sector:

1. To achieve a satisfactory level of self-sufficiency in the production of staple food crops;
2. To expand the production of agricultural exportables;
3. To increase the import substitution of agricultural products and inputs; and
4. To improve rural employment and incomes among peasants and emergent farmers.

Among these four objectives, in our opinion the fourth is the only valid

one. Pursuing the other three may waste resources, if they imply a distortion of Zambian productive structures as opposed to those that would result from international specialization. This programme is inconsistent since it is both an inward and outward-looking strategy.

It is an inward-looking strategy so far as it aims at import-substitution (for agricultural products and inputs) and self-sufficiency (for staple food crops). It is outward-looking so far as it aims at expanding exports (or agricultural products in general). It is possible that the expansion of agricultural exports could replace exports of industrial products or raw materials, whereas the import-substitution policy in agriculture would require higher imports of other inputs. In such a case, the result would be a chain of substitutions in the structure of trade, with an overall effect on the volume of trade and/or the trade balance, difficult to assess. In other words, the rationale for such substitutions is by no means evident.

It may be the case, however, that an unstated objective of the new policy is equilibrium in the balance of payments. Such an objective, however, would be fallacious as the only cause of balance of payments difficulties is the inconsistency between the exchange rate and the monetary policies.

Diversification of agricultural production is necessary and possible (e.g. tobacco or coffee, soybeans, groundnuts, sunflowers, etc.). Even if the price of coffee seems low, it might be worth developing coffee, since peasants have the time and the unused land, so that the marginal cost of production might be brought even lower.

STABILIZATION PROGRAMMES AND AGRICULTURE

A policy based on illusions (subsidies, low interest rates, etc.) has led to a serious, prolonged economic crisis. Adjustment has been painful for every one, particularly the poor. While the reforms suggested by IMF or the World Bank should be supported as long-term objectives, transitory solutions for the poorest must also be found. We believe that Zambia is clearly a case where agriculture would benefit from the IMF traditional stabilization policies. In particular, it would allow a better exchange rate and trade policy.

One problem could be the "optimal rate" of adjustment. Choosing gradualism implies the risk of having policy changes imposed before the target

is reached. It is necessary to choose between economic adjustment “shocks” and possible shocks of a political origin. As we have seen, the main risks for farmers stem from possible political reactions.

The IMF wanted a wage freeze, the removal of free schooling and free cars for civil servants, etc. However, such proposals were not accepted. Zambian criticisms of the IMF are somewhat biased. They are not really concerned with the underlying economic analysis. In the specific case of Zambia, the IMF stabilization programmes cannot be considered as having been detrimental to farmers. On the contrary, they aimed at changing the structure of privileges, but they were not politically acceptable. Designing an optimal stabilization plan must take into account such political pressures.

REFERENCES

- Bank of Zambia.** *Quarterly Financial and Statistical Review*, (various issues).
- IMF.** 1985. *Zambia - recent economic developments*, 9 October, Washington, D.C.
- IMF.** 1985. *Zambia - staff report for the 1985 article IV consultation*, 6 November. Washington, D.C.
- IMF.** 1985. *Zambia - staff report for the 1985 article IV consultation*, 1 October. Washington, D.C.
- Kydd, J.** 1986. Changes in Zambian agricultural policy since 1983: problems of liberalization and agrarianization, *Development Policy Review*, 4, p.: 233-259.
- Pearce, R.** 1987. *The feasibility of policy reform packages associated with structural adjustment programmes: case studies of Ghana, Kenya, Zambia.* (Unpublished paper).
- Provincial Planning Unit Lusaka Province.** 1984. *Towards self-sufficiency - a blueprint for agricultural development in Lusaka Province*, November.
- Republic of Zambia.** 1987-88. *New economic recovery programme, interim national Development plan*, National Commission for Development Planning, July 1987-December 1988.
- Seshamani, V.** 1987. *The human crisis in Africa: the experience of Zambia*, Paper prepared for the International Conference on the Human Dimension of Africa's Economic Recovery and Development, 12-15 October.
- Smith, W. & Wood, A.** 1984. Patterns of agricultural development and foreign aid to Zambia, *Development and Change*, 15, pp: 410-411.
- United Nations.** 1987. *Country and intercountry programmes and projects — country programme for Zambia*, Governing Council of the United Nations Development Programme. 13 February.
- World Bank.** 1984. *Zambia country economic memorandum - issues and options for economic diversification*, 16 April. Washington, D.C.
- World Bank.** 1984. *Zambia policy options and strategies for agricultural growth*, 11 June. Washington, D.C.
- World Bank.** 1985. *Zambia agricultural pricing and parastatal performance study*, 14 June. Washington, D.C.
- World Bank.** 1986. *Zambia country economic memorandum - economic reforms and development prospects*, 19 November. Washington, D.C.

7. The failure of Morocco's development strategy for irrigation agriculture

Nearly 60 percent of Morocco's population lives in the rural sector, which produces only 10 percent of GDP. These figures are sufficient to reveal Morocco's agricultural crisis. Since 1960, agricultural development strategy had been oriented exclusively towards irrigation, which has resulted in a stagnant level of output in the traditional ("dry") sector. The export promotion policy for irrigated crops was equally a failure because of the EEC's Common Agricultural Policy (CAP), although this could have been predicted in due course. The import substitution for sugar was successful with respect to lowering imports, but it failed because of high resource costs. An import substitution policy for cereals should have been launched earlier. In the 1980s, Morocco faced the additional problem of debt, the solution to which represents a serious constraint for solving the agricultural problem.

MAIN ECONOMIC AND AGRICULTURAL INDICATORS

Morocco is one of eight African countries with more than 20 million inhabitants (Table 26). Its population growth rate is slightly less dramatic (2.5 percent) than that of sub-Saharan Africa. A decline in the ratio of the rural population to total population is also observable in Morocco, as in other African countries. However, this level has always been relatively low compared with the agricultural population of 60 to 80 percent generally found throughout Africa. Consequently, its industrial sector has always been more developed than that of most other African countries.

Morocco's GNP per caput for 1985 places it at the lower end of the World Bank's middle-income countries (US\$400 to 1 600). Its GDP growth rate

TABLE 26

Morocco: main economic and agricultural indicators, 1965-85

	1965	1985
Population (million)	13.0	21.9
GNP per caput (US \$)	200	560
Agric. pop./total pop. (%)	68	57 ¹
Agric. GDP/total GDP (%)	19 ²	11
Agric. exports/GDP (%)	7	3
Annual growth rates	1965-80	1980-85
	(%)	(%)
GDP	5.7	3.0
Population	2.5	2.5
GDP per caput	2.2	0.5
Agric. production	2.2	1.0
Agric. production per caput	-0.3	-1.5

¹ 1982.² 1967.

Source: World Bank, 1987 and FAO, 1987.

over the last two decades could be considered satisfactory, even though its GDP growth rate per caput lies below the average of developing countries as a group, which was 3 percent a year during 1965-85 (as calculated by the World Bank, 1987a). Its agricultural performance has been alarming and resembles that of sub-Saharan Africa where agricultural production per caput declined considerably during the 1970s and 1980s, in contrast to the agricultural evolution in Asia and, particularly, in Latin America (Due, 1986). One common factor underlying the poor rate of agricultural development of Morocco and sub-Saharan Africa was the high rate of population growth: 2.5 percent in Morocco and 2.8 percent in sub-Saharan Africa during 1970-82 (Due, 1986). However, Morocco's own agricultural devel-

opment strategy pursued since independence, together with an increasing long-term constraint on its agricultural exports, have been the main reasons for the deterioration of its agricultural performance.

WET VERSUS DRY AGRICULTURE DURING THE FRENCH PROTECTORATE

Agricultural development throughout the French protectorate (1912-56) and after independence (1956) was an alternation between "the wet" (*bled sequia*) and "the dry" (*bled bour*) (Swearingen, 1987). Colonial farmers in Morocco were exclusively preoccupied with export crops and, at that time, exports were destined for the French domestic market. Consequently, the French government and the French agricultural lobby had a say in what could be imported.

The period from 1915 to 1931 was characterized by a concentration on wheat production, but during the 1920s there were rising difficulties in exporting it. From 1931 onwards, colonial agriculture was first diversified, and then increasingly specialized, in irrigation agriculture. Small-scale irrigation (using water from wells and water diversion from rivers) had already been practised in Morocco for centuries. Large-scale irrigation systems, based on extended water-conveyance structures and on dam constructions, had their origins in the 1930s. The type of crop to be grown on the irrigated land was determined by the French market and by its agricultural pressure groups. Since the 1930s, colonial farmers were encouraged to produce citrus fruit which would not compete with French fruit production. From that time until the end of the protectorate, France granted very large tariff-free import quotas to Moroccan citrus crops. However, for other irrigated crops such as vegetables, quotas on imports had already been established by 1934. As is the case today, only those vegetables grown during the French agricultural off-season were permitted to enter the French market.

During a short period (1945-48) after the Second World War, when there was a great need for cereals, not only in France but all over Europe, the pendulum began to swing back in favour of traditional dryland agriculture. A programme called *Secteurs de Modernisation du Paysannat* was con-

ceived, according to which 10 percent (i.e. 440 000 ha) of arable land was assigned to 220 model farms (each totalling 2 000 ha); these constituted the "growth poles" for dryland cereal production all over Morocco. Mismanagement of the modernization plan, and the revival of agricultural protectionism in France, from 1948 onwards, and later all over Europe, set in motion renewed emphasis towards "wet agriculture". Since 1948, and until independence in 1956, irrigation agriculture was once again the priority of agricultural production in Morocco.

In the spirit of change immediately following independence, the Moroccan government sought to break with the colonial past by launching the plan, Operation Labour (Operation Plough), which favoured dryland agriculture once again (van Wersch, 1968). The programme envisioned the consolidation of smallholders into entities, of a maximum 12 000 ha, where each group was supplied with government tractors. At the time of independence, only 2 000 tractors were utilized, mostly by colonial farmers (El Khyari, 1986).

Swearingen (1987), currently observes that "for substantial portions of agrarian Morocco, the last major innovation was the introduction of the wooden scratch plough during Roman times". Thus, the traditional Moroccan peasant, armed only with the animal traction of a scratch plough and who begins ploughing and planting after the autumn rains, remains the predominant production unit in Morocco's agriculture. The rationale of Operation Plough (as well as that of the *Secteurs de Modernisation du Paysannat* during 1945-48) was to begin deep mechanical ploughing (as opposed to scratch ploughing which does not enable the soil to store moisture during the dry period) and planting of selected seeds before the autumn rains which increase the cereal yields per hectare by roughly four-fold (Swearingen, 1987). Since 1960, Operation Plough has been in decline because of its unpopularity, lack of immediate results, and the reorientation of agricultural development strategy, which once again favoured irrigation.

DEVELOPMENT STRATEGY FOR IRRIGATION AGRICULTURE SINCE 1960

By the end of the protectorate period, 6 000 Europeans owned 1 million ha of land, while 7 500 Moroccans owned 1.5 million ha. The total of 2.5 million ha was concentrated on the modern sector of (irrigated and non-irrigated) agriculture. Up to 1973, 40 percent of the foreign-owned land had been transferred from European settlers to wealthy Moroccans. The "sale" required political approval. In early 1973, after the two unsuccessful *coups d'Etat* of July 1971 and August 1972, the King ordered the confiscation of the remaining foreign-owned lands and their redistribution among the peasantry. Thus, during the first 20 years of independence, 40 percent of the foreign-owned land went to large landowners, 35 percent to peasants and 25 percent to the public sector (managed mainly by the two public agencies, SODEA, *Société pour le Développement Agricole* and SOGETA, *Société pour la Gestion des Terres Agricoles*).¹

Today, there are 8 500 large Moroccan landowners, who possess 2 million ha, representing 30 percent of the total agricultural land and 65 percent of the modern irrigated land which covers 625 000 ha. Consequently, it is not surprising that the agricultural development strategy for irrigation, pursued since 1960, coincides precisely with the interests of the Moroccan élite, which includes army officers, government officials, urban merchants and rural notables.² In this respect, there is a continuation of the former colonial tradition. The large French and Moroccan landowners of the protectorate have been substituted exclusively by Moroccan landowners, including the Moroccan state itself. Moreover the export-oriented agricultural development strategy based on irrigation, which was launched by colonial farmers during the 1930s and from 1948 to 1956, has, since 1960, been continued by the Moroccan government. As Swearingen (1987) points out, the official irrigation programme was "literally based on a 1938 irrigation plan" according to which 1 million ha were planned to be put into perennial irrigation

¹ The above figures were collected from Griffin (1976), chap. 4; El Khyari (1986); and Swearingen (1987).

² The Royal Family's holdings are estimated at 38 000 ha (Swearingen, 1987).

TABLE 27

Morocco: public investment in agriculture and industry, 1973-80

(Annual average as a percentage of total public investment)

	1973-77	1978-80
	(%)	(%)
Agriculture	20.6	18.2
out of which irrigation agric.	8.6	10.3
Industry	11.4	9.8

Source: Benazzou (1986), p. 20.

by the year 2000.

Since 1960, about 20 new dams have been constructed. As Table 27 indicates, public investment was heavily concentrated on agriculture (which was welcomed); but half of it went to the relatively small irrigation sector. Thus, the latter sector enjoyed roughly the same public investment priority as industry. For the period before 1973, Cleaver (1982) observed the same proportions.

While the irrigation sector of agriculture was heavily favoured, the traditional cereal production sector, in which 90 percent of farmers participate, was ignored. In this sector, which today is not substantially different from what it was in the 1950s, (4.5 million ha of cultivable land, of which 2.1 million ha are for barley, 1.8 million ha for wheat and 0.6 million ha for maize), production has remained rather stagnant. As Table 28 indicates, for the 1970s there is a clear-cut positive protection of irrigated products (at least for tomatoes and olives) and an overall negative protection of cereals. Producer prices for tomatoes and olives have always been (throughout the 1970s and 1980s) above the market price, while for the 1970s, producer prices for cereals were below the market price. Unfortunately, there are no figures available for the other two important irrigated crops, namely citrus fruits and potatoes. The protection of irrigated crops (tomatoes) is even more pronounced in terms of the effective protection coefficients, which take into account input subsidies for agricultural production. The effective protection

coefficient for non-irrigated products, remains roughly the same as the nominal coefficient, which implies that there were practically no input subsidies granted to cereal production (in the 1970s or in the 1980s). In contrast, we observe a steady subsidy policy for tomatoes (and probably also for citrus fruits and potatoes) during the whole period.

The period from 1980 to 1982, when cereals received positive protection, can be explained by two phenomena that took place simultaneously. Firstly, there was a significant fall in cereal prices in the world market; and, secondly, there was a large increase in official producer prices in the domestic market.³ However, in 1984, the situation returned to its "normal" (i.e. negative) protection pattern of the 1970s. An exceptional and more privileged (effective) protection among irrigated crops can be observed with respect to sugar (except for 1975).

The general philosophy underlying the development strategy of irrigated agriculture at the expense of non-irrigated agriculture is based on two premises. The Moroccan élite which possessed the overwhelming part of irrigated land had a vested interest in favouring its own economic activity. In addition, such a policy could be rather well defended politically in terms of favourable trade balance arguments: a policy of export promotion with respect to citrus fruits and vegetables, and a policy of import substitution, with respect to sugar. As we shall see later, the import substitution policy for sugar has become increasingly effective since 1978.

The figures of Table 28 indicate (except for 1980-82) a shift of resources from the large non-irrigated agricultural sector to the small irrigated one.

³ During 1980/81, the latter year being the worst drought year of the century for Morocco (agricultural output declined 23 percent, leading to a negative GDP growth rate of -1.3 percent, according to the World Bank, 1987a), the Moroccan government had cheap access to the world market for buying cereals. As will be discussed later, Morocco had become a net importer of cereals in 1960, which was the necessary consequence of stagnant domestic output. Low world market prices for wheat, together with dumping practices of competing foreign wheat exporters, provided a particular incentive to purchase foreign cereals since, at that time, the domestic producer price was above the world market price. Because the Moroccan government (in common with many other governments), provides significant food subsidies to urban consumers of wheat, the government has a special preference for increasing imports of cereals in all those (exceptional) cases when domestic producer prices are above world market prices.

TABLE 28

Morocco: nominal (NP) and effective protection (EP) for selected agricultural products, 1970-84

	1970		1975		1980		1982		1984	
	NP	EP	NP	EP	NP	EP	NP	EP	NP	EP
Irrigated crops										
Tomatoes	1.30	1.48	1.30	1.44	1.30	1.49	1.30	1.76	1.30	1.52
Olives	1.30	1.35	1.30	1.34	1.30	1.35	1.30	1.37	1.30	1.29
Sugar beet	1.30	1.68	0.65	0.67	1.10	2.54	0.97	2.02	0.93	NA
Sugar cane	1.31	1.56	0.62	0.64	1.10	1.50	0.90	1.61	1.20	NA
Non-irrigated crops										
Barley	0.84	0.88	0.90	0.93	1.52	1.37	1.06	0.89	0.92	0.93
Hard wheat (couscous)	1.09	0.90	0.96	0.94	1.33	1.26	1.12	1.13	0.88	0.90
Soft wheat (bread)	0.90	0.96	0.75	0.79	1.20	1.29	1.00	1.06	0.91	0.94
Maize	0.74	0.69	0.89	0.92	1.31	1.69	1.14	1.21	0.83	0.80

Source: World Bank (1985), p. 246. The Protection coefficient above / below unity, denotes positive / negative protection.

An alternative interpretation for the channel of transfer is that from the non-irrigated sector to urban consumers of food (in particular, for flour). Low producer prices for cereals allow low consumer prices for the corresponding food products. In addition, the Moroccan government subsidizes certain food items produced, either in the non-irrigated sector (e.g. flour), or in the irrigated sector (e.g. sugar and oil). However, food subsidies (expressed as a percentage of agricultural GDP) have steadily declined over the last ten years, as Table 29 indicates.

On the other hand, we see in Table 29 a steady increase of input subsidies (fertilizers, irrigation services, capital) which are transferred almost exclusively to the profit of irrigated agriculture, as the effective protection coefficient of Table 28 illustrates. Domestic production of fertilizers may

TABLE 29

Morocco: agricultural input subsidies and food subsidies, 1974-85

	1974-77	1978-82	1983-85
	(% of agric. GDP, annual averages)		
Agricultural input subsidies ¹	2.2	3.7	5.8
Food subsidies ²	11.8	6.2	5.5
Food and input subsidies	14.0	9.9	11.3

¹ In order, from most to least important: fertilizers, irrigation services, investment and equipment.

² In order, from most to least important: flour, sugar, oil, butter/milk. The subsidies for butter/milk were cancelled in 1984.

Sources: Calculated from World Bank, 1986a, II, p. 14; and World Bank, 1987a, pp. 43-44.

explain the priority given to fertilizer subsidies. Under pressure from the World Bank, the Moroccan government will remove them completely at the start of the 1988/89 crop year. Subsidies for irrigation water were considerably curtailed in 1980 and 1984, also under pressure from the World Bank.⁴ Subsidies for investment and equipment do not take into account the capital cost of dam construction. Hence, the effective protection coefficients for irrigated agriculture are significantly higher than those shown in Table 28.

It can be concluded that Morocco's development strategy for irrigated agriculture was biased, in general, in favour of the urban population composed of urban rich (landowners) and urban poor (through low food prices). One part, but certainly not the main part, of the resource transfer, originated from the non-irrigated agricultural sector. The adverse effects of this irrigation-oriented agricultural policy are contained in Table 30.

1. Agricultural output grew by less than 1 percent a year over nearly 20 years. Consequently, its growth rate per caput was always negative and, on average, minus 2 percent. In comparison, the growth rate of

⁴ The efficiency of pricing the use of irrigated water is doubtful. Once a dam has been built (which, in many cases, was a wrong decision anyway in terms of capital scarcity), the marginal cost of using water often decreases while that of monitoring water usage may generally be very high.

TABLE 30

Morocco: agricultural production, 1968-85 (annual averages)

	1968-73	1974-77	1978-82	1983-85
Agricultural production (in 1969 prices)				
(millions of dirhams)	3 791 ¹	3 713	3 968	3 991
Growth rate (%)	1.4 ¹	-0.1	1.4	0.6
Growth rate per caput (%)	-1.5 ¹	-3.3	-0.7	-2.0
Structure of GDP (% of total GDP) (%)			
Agriculture	19.2	14.7	12.6	11.2
Industry	28.1	30.4	29.4	27.3
Tertiary	52.7	54.9	58.0	61.5
Growth rate of real GDP	5.8	7.5	3.2	2.9
Growth rate of real GDP per caput	2.9	4.3	1.1	0.3

¹ 1969-73.

Source: World Bank, 1987a, pp: 45-52.

total GDP per caput was always positive, except for 1981.

- The agricultural sector declined steadily during the whole period. While the industrial sector maintained roughly the same share, the decline of the agricultural sector was accompanied by an equivalent rise of the tertiary sector.

The Moroccan case resembles, in this respect, that of many less developed countries (LDCs) and, in particular, those of sub-Saharan Africa, where the traditional agricultural sector was disregarded within the general development scheme and where there was a nett shift of resources from the rural to the urban sector.

MOROCCO'S POLICY OF EXPORT PROMOTION AND IMPORT SUBSTITUTION FOR IRRIGATED CROPS

Since Morocco's development strategy for irrigated agriculture was a

TABLE 31

Morocco: type of exported goods (merchandise), 1967-85
(percentage of total exports; annual averages)

	1967-73	1974-77	1978-82	1983-85
 (%)			
Agriculture	56	31	31	27
Mining	33	55	48	49
Phosphates	23	47	31	23
Phosphate derivatives	2	3	11	21
Other minerals	8	5	5	5
Manufacturing industry	10	13	21	25

Source: World Bank, 1987a, pp: 59-60.

complete failure for the agricultural sector as a whole, it could be hoped that it was at least a full success, from the point of view of foreign trade, in irrigated agricultural products. Unfortunately, this scene is even more gloomy.

If we look first at the evolution of Morocco's total exports (Table 31), we observe two clear-cut tendencies. Firstly, mining⁵ and manufactured products⁶ increased continuously. Secondly, there is a continuous decline in the share of agricultural products among total exports. However, from the point of view of exports, Morocco remains basically an "agricultural-cum-primary commodity country" (96 percent in 1967 and 74 percent in 1985).

The declining share of Morocco's exports to EEC countries is indicated in Table 32.

⁵ Export of phosphate rocks, which always constituted the most important single export item, increased sharply in 1974/75 due to a more than treble (but short-lived) increase in the US dollar price of phosphate.

⁶ If we include phosphate derivatives under manufactured products (belonging to the industrial branch of chemicals and plastics), the increase in manufactured products would be 12 percent of total exports in 1967-73 and 46 percent in 1983-85.

TABLE 32

Morocco's main export markets (merchandise), 1967-85

	1967-73	1974-77	1978-82	1983-85
.....(% total exports/yr)				
Morocco's exports to:				
Industrial countries	75	68	69	65
among which:				
France	36	23	25	23
Germany	9	8	9	7
Spain	5	6	7	7
Italy	6	7	6	6
Netherlands	4	3	5	5
Belgium/Luxembourg	3	6	5	4
U.K.	6	6	4	4
Japan	2	2	2	4
U.S.	2	1	2	1
Total	73	62	65	57
Others	25	32	31	35

Source: IMF, Directory of trade statistics yearbook.

There is a nett tendency to export relatively less to industrial countries. This is because of the considerable decline of Morocco's share of exports to France or to the EEC countries as a whole.

It should be remembered that the colonial farmers during the protectorate period reacted rather rapidly in their production pattern to any change in international market signals, which, at that time, were set by the French market. When the international need was for wheat, they shifted from "the wet" to "the dry," and when wheat was protected, they switched back to "the wet" by filling market niches for which French agricultural protectionism was non-existent.

That lesson was not taken into consideration in agricultural development planning. One year after Morocco's independence, France signed the Treaty

of Rome and became tied to the EEC's common policies, including the Common Agricultural Policy (CAP). The characteristics of CAP were and remain: a target of self-sufficiency progressively for all agricultural products as well as high producer prices compared to world market prices. The first products affected by CAP after 1962 covered items like grains, eggs, butter, milk and meat and they did not affect Morocco's exports. However, throughout the 1970s, practically all agricultural products produced by the EEC countries were brought under CAP, including fruits and vegetables which constitute Morocco's main agricultural exports.

According to Pomfret (1987), the inclusion of "Mediterranean products" took a rather longer time because of their seasonal production pattern and their perishable nature. However, the principle is rather simple. During the off-season (e.g. autumn and winter) when vegetables are in short supply within the EEC, import restrictions to the EEC are suspended.⁷ Since the end of 1974, Morocco's exports of vegetables have been reduced from an annual average of DH400 million (in constant prices of 1976) to DH200 million (Table 33). The main vegetables exported by Morocco are tomatoes and potatoes. With the accession of Greece to the Common Market in 1981, the EEC became almost self-sufficient in tomatoes. During the off-season, the EEC imported about 60 percent from Spain and roughly 30 percent from Morocco. With Spain's membership in 1986, and after its full integration into the EEC, the EEC will have surpluses of tomatoes throughout the year; and Morocco will not only bear the total burden but, in addition, it will be exposed to increased competition in third country markets from the subsidized exports of EEC surpluses. As far as potatoes are concerned, the effect of Spain's (and Portugal's) accession to the Common Market on Morocco's exports of potatoes remains uncertain, since the self-sufficiency of the EEC in potatoes depends on the Greek and Spanish supply response to price incentives once both countries are fully integrated in CAP.

The evolution of Morocco's most important agricultural export items, citrus fruits, shows that their export volume has remained rather unchanged

⁷ Greenhouses covering about 1 000 ha of irrigated land permit Morocco to export early vegetables.

since 1970 (Table 33). Each year, their export value (in constant prices of 1976) amounted to about DH600 million. The 1969 association agreement with the EEC, which was renewed in 1976, granted Morocco an 80 percent reduction in the EEC tariff on oranges, while countries like Spain obtained only a 60 percent reduction. Again, after the full integration of Spain into CAP, the EEC will be self-sufficient in nearly all citrus fruits and in those varieties (clementines and winter oranges) which Morocco produces and exports, for the moment "leaving the countries outside the Community with a preferential share of nothing" (Pomfret, 1986).⁸

According to Table 33, the decisive absolute decline in total agricultural exports took place at the beginning of 1975 and stagnated on the lower level until 1980. From 1981 onwards, we observe a rise in total exports to the pre-1975 level. This rise is due to the remarkable increase in fish exports during the most recent period and we could ask why Morocco did not use fish more intensively in former times, since one of the richest fishing grounds in the world are in Morocco and western Sahara.

Once the EEC has reached self-sufficiency in citrus fruits and tomatoes (and perhaps also in potatoes), Morocco will face a tremendous crisis in its agricultural exports and, consequently, in its irrigated agriculture. The 1987 request by Morocco for membership to the EEC has perplexed European officials trying to find an appropriate political answer. It represents a last attempt to defend the economic interests of the large landowners who include many of the political élite.

Another expedient is the development of exotic products such as avocados or asparagus, but other Mediterranean EEC countries have the same possibility of growing them. Consequently, the irrigated crops of the near future,

⁸ Another factor (now of an internal nature) which had hampered agricultural exports in the past was the monopoly power granted to the official export marketing board, the *Office de Commercialisation et d'Exportation* (OCE), for almost all exports of fresh and processed agricultural products. The OCE had exclusive control of contract negotiations, transportation, marketing and quality control. Since 1984, under pressure from the World Bank, the government has begun to abolish its export monopoly, for processed food exports in 1984 and, for horticultural exports (citrus, tomatoes, potatoes) since 1986/87. Producers now have the option of exporting their output through private companies or through the OCE.

TABLE 33
Morocco: agricultural exports and imports, 1970-85

Year	Agricultural exports				Agricultural imports				Agricultural trade balance		
	Total (DH million)	Total (1976 prices)	% of agricultural exports		Total (DH million)	Total (1976 prices)	% of agricultural imports		Total (DH million)	% of GNP	Agricultural terms of trade (1976=100)
			Citrus fruit	Fresh vegetables			Cereals	Sugar			
	(DH M)	(DH)	(%)	(%)	(DH M)	(DH)	(%)	(%)	(DH M)	(%)	
1970	1 414	2 318	25.2	18.9	583	1 356	22.3	23.7	831	4.2	142
1971	1 362	2 095	28.6	17.9	701	1 374	34.7	21.2	661	3.0	127
1972	1 644	2 383	26.1	16.6	625	1 096	21.9	27.0	1 019	4.3	121
1973	2 122	2 909	23.3	16.0	1 033	1 727	42.4	23.7	1 089	4.1	122
1974	2 023	2 467	19.2	15.6	1 834	1 890	38.6	34.4	189	0.5	84
1975	1 698	1 887	23.9	10.3	2 594	2 295	37.0	37.4	-896	-2.3	80
1976	2 080	2 080	28.5	12.4	1 976	1 976	36.7	30.9	104	0.2	100
1977	1 932	1 840	31.8	10.5	1 944	2 738	30.2	26.2	-12	0.0	148
1978	2 225	1 952	36.4	9.7	2 005	2 538	42.7	15.2	220	0.4	144
1979	2 501	1 725	34.3	15.3	2 143	2 646	45.4	12.5	358	0.6	179
1980	2 998	2 039	38.7	13.1	2 833	2 777	44.3	22.1	165	0.2	144
1981	3 377	2 236	31.7	9.9	4 613	3 319	51.8	22.8	-1 236	-1.6	109
1982	3 291	2 019	33.0	9.8	3 496	2 799	49.4	14.8	-205	-0.2	130
1983	4 098	2 382	26.9	11.0	3 796	2 636	53.0	10.9	302	0.3	119
1984	4 743	2 445	22.3	11.1	5 817	3 402	62.0	8.3	-1 074	-1.0	113
1985	6 068	2 447	24.6	10.0	5 106	2 821	55.0	7.8	962	0.8	137

Source: World Bank (1987), pp. 57-60 and 65-68.

The real value of exports and imports and the terms of trade have been calculated from agricultural price indices which we have obtained from Morocco's Direction de la Statistique, Ministère du Plan.

if not diverted successfully to third markets, will have to be increasingly absorbed by the domestic market.⁹ However, two considerations will limit such a switch. The low purchasing power of the average Moroccan consumer will not permit the domestic sale of a considerable portion of the crops without a major government subsidy of products whose production costs are already heavily subsidized. At the same time, a policy of import substitution for cereals and vegetable oils could be envisioned; but such a policy implies the inefficiency of high resource costs as can be illustrated in the case of sugar for which Morocco has already been pursuing a policy of import substitution ever since the decisive first decline in agricultural exports after 1974.

Total agricultural imports rose steadily throughout the whole period (Table 33). As far as cereals are concerned, Morocco was always a nett exporter until 1960 when it became a nett importer. From 1970 onwards, cereal imports increased continuously from DH300 million (in constant 1976 prices) to DH1 500 million in 1985 (disregarding the exceptional drought years of 1981 and 1984). Since sugar imports followed practically the same evolution path as cereals between 1970-75, and since the collapse of irrigated crop exports started at the end of 1974, Morocco launched an import substitution policy for sugar rather rapidly in 1976, which resulted in a steady decline in sugar imports. However, as mentioned earlier (see Table 28), the effective protection coefficient for sugar (after 1975) is the highest among irrigated crops. Consequently, the success of declining sugar imports has been acquired by increasing resource use inefficiencies.

By comparing agricultural exports and imports (Table 33), the last and considerable surplus year of the agricultural trade balance was 1973 when the surplus was equal to 4.3 percent of GNP (during 1967-73, its annual average was 2.9 percent of GNP). In all the following years, the agricultural trade balance oscillated around zero percent for the traditional and policy-

⁹ The domestic market for horticultural products is a free market. It is made up of small wholesale and retail merchants who purchase the products from smallholders. No central agency controls and coordinates the horticultural market and the government does not set prices. They are only indirectly affected by changes in exports, since output which is rejected for exports enters the domestic market.

supported export-oriented agricultural sector.

It is surprising that the agricultural external terms of trade do not represent the driving force for the long-term evolution of the agricultural trade balance. It was the agricultural protectionism of the EEC, together with Morocco's persistence with its development policy for irrigated agriculture, that created its agricultural crisis.

The policy of agricultural import substitution, should have been applied to cereal production instead of sugar, at least since 1975. This agricultural policy would have necessitated a shift from irrigated agriculture to dry-farming agriculture. A change in the internal terms of trade between cereals and irrigated products would have effected such a structural change. However, while cereal producers would have benefited and would have reacted by producing more, two politically influential groups would have lost out: the larger landowners, settled in irrigated agriculture and forming the policy-making élite, and the urban poor, whose riots in June 1981 and January 1984, after the official announcement of increases in food prices, reveal a potential threat to internal political stability.

MOROCCO'S POLICY DILEMMA OF MACRO-ECONOMIC STABILIZATION AND AGRICULTURAL ADJUSTMENT PROGRAMMES

Morocco belongs to the group of middle-income developing countries with the highest foreign indebtedness¹⁰. The origin of its debt problem can be traced back to two major events that occurred in 1974.

The first worldwide wave of adverse external shocks hit the Moroccan economy in a prosperous, but short-lived way: the quadrupling of the price of phosphates, Morocco's main export item, during 1974/75. The year 1974 also marked the beginning of Morocco's "war" with the Polisario Front, over its territorial claim in the western Sahara. As for agriculture, 1974 constituted the bench-mark of a deteriorating agricultural trade balance which, in former times, had been constantly in considerable surplus, and

¹⁰ Middle-income developing countries include: Argentina, Bolivia, Brazil, Chile, Colombia, Costa Rica, Côte d'Ivoire, Ecuador, Jamaica, Mexico, Morocco, Nigeria, Peru, the Philippines, Uruguay, Venezuela and Yugoslavia. See World Bank, *World development report* 1986, p. 504.

TABLE 34

Morocco: budget and current account deficits and external public debt, 1967-85

Year	Budget deficit	Current account deficit	External public debt ²
		% of GNP	
1967	4.66	3.06	
1968	3.47	2.66	
1969	4.55	1.08	
1970	3.10	3.16	
1971	2.98	1.36	
1972	3.97	-0.92	
1973	1.97	-1.65	
1974	3.78	-2.98	15.2
1975	9.08	5.81	18.5
1976	17.34	14.01	23.9
1977	15.31	15.98	35.2
1978	10.71	9.88	36.9
1979	9.81	9.34	37.0
1980	10.08	7.78	42.0
1981	14.27	12.33	59.4
1982	12.43	12.56	66.7
1983	11.60 ¹	6.43	83.6
1984	9.48 ¹	8.20	97.8
1985	9.03 ¹	7.11	103.8

¹ After external debt service relief. The ratio of the budget deficit to GNP before external debt relief was 12.55 for 1983, 11.20 for 1984, and 9.94 for 1985.

² As a percentage of GDP plus net workers' remittances.

Source: World Bank, 1987b, World Debt Tables.

which worsened as a consequence of increased cereal imports, of rising EEC agricultural protectionism and adverse agricultural terms of trade.

These two major events led to increasing budget and current account

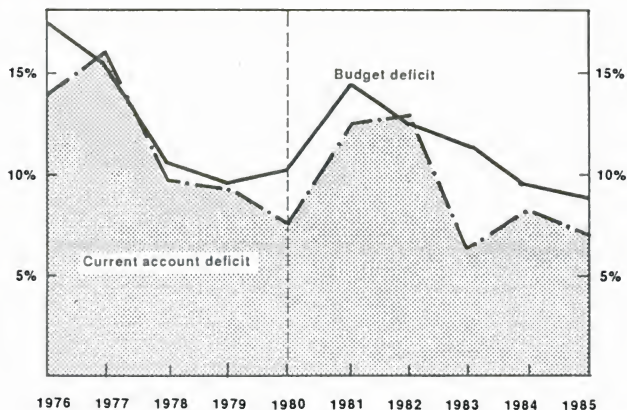
deficits which resulted in rise in external debt (Table 34).¹¹ Morocco's military engagement escalated until recently and "war" expenditures must have considerably increased the budget deficit (there are no precise figures available). The boom of phosphate prices (1974/75) was followed by expansionary domestic policies which, in 1976 and 1977, produced the country's worst ever budget deficit and, consequently, its worst current account deficit. The sharp increase in public expenditures was due mainly to a vast public investment programme, including the construction of dams, the development of a chemical industry based on phosphate derivatives and capital-intensive import substitutions such as sugar, not to mention the military engagement over the western Sahara. Government revenue also fell since the revenue from phosphate rock exports (which had constituted one-fourth of total government revenue in 1974) returned to roughly its original level. As a consequence of the external deterioration, Morocco reversed its domestic policies during 1978-80 with an austerity programme and a more protective commercial policy (in terms of an increase in tariffs and import restrictions), but without any devaluation of the overvalued exchange rate.

The second worldwide wave of external shocks (but this time without any rise in the price of phosphates) hit the Moroccan economy in 1981/82 and counteracted the domestic policy measures of 1978-80. An additional "external" shock to the Moroccan economy was drought: the worst drought Morocco has ever experienced in the second half of the twentieth century, which, for the first time, plunged the economy into a decline in its real GDP in 1981. A consequence of these shocks was a considerable increase in the budget and current account deficits in 1981/82 (Figure 17). At the same time, international reserves fell to two weeks' of imports, since it became increasingly difficult to finance the current account deficit.

¹¹ Since 1969, the current account deficit has been continuously below the trade balance deficit (goods and non-factor services) or, in other words, below the resource gap. One reason for this has been the nett current transfers from abroad, which were at low levels. The other principal reason was the nett factor income from abroad. Despite increasing external debt and, consequently, the rising burden of interest service, nett workers' remittances were always much above nett interest payments.

FIGURE 17

Budget and current account deficits, 1976-85 (as percentage of GNP)



In 1980-82, debt service increased considerably and amounted to US\$1 400 million a year, which was equal to 10.6 percent of GDP (and to 34 percent of exports, non-factor services and workers' remittances). This debt service cost was met, despite the deterioration of the current account deficit in 1981-82. During 1983-85, the yearly debt service would have risen to an average of US\$2 200 million a year (equal to 16.6 percent of GDP and to 55 percent of total exports). From the start of 1983, exceptional financing via grants from Arab countries was cut because there were prospects for solving the Sahara conflict. In mid-1983, during several debt negotiations with the Club of Paris, the Club of London and Saudi Arabia, Morocco's debt was rescheduled, which implied a debt service relief of a total of US\$3 100 million for 1983-85. Consequently, its average debt service payments were only US\$1 000 million a year, corresponding to the average

debt service/GDP ratio and to the average debt service/export ratio during 1978-82.

The counterpart of this debt relief was the adoption of a stabilization programme to be implemented by the Moroccan authorities. This programme visualized adjustment measures with respect to the budget and current account deficits, as well as structural changes in specific sectors. The package of prescribed policies was much like the one imposed on other indebted countries.

For the budget deficit:

- Fiscal reform to increase government revenues and to reduce tax disincentives; (the proposed value-added tax was introduced in 1986);
- Reduction in the number of civil servants and a freezing of their salaries; (in 1986, there were roughly 604 000 civil servants compared with 584 000 in 1984);
- A reduction in public investment and in subsidies for consumption; (the investment ratio fell only modestly during 1983-85, but the share of public investment increased; and the prices of subsidized consumption goods rose by 20-40 percent);
- Price increase of 10-25 percent for public utility services;
- Pressure to reduce expenditures led to a considerable accumulation of arrears, mainly to public enterprises. Thus expenditures had been made on a commitment basis for purchase of goods and services, for which cash payments had still not been made. While no significant arrears existed in 1982, by the end of 1986, they reached DH10 000 million (US\$1 000 million, i.e. nearly 10 percent of GNP); and
- 1984 and 1985, central bank credit to the government had considerably decreased.

In 1981/82 the budget deficit equalled 13 percent of GNP and was reduced to 11 percent of GNP (before debt relief) and to 10 percent of GNP (after debt relief) during 1983-85 (with progressive results, e.g. 11.6 percent in 1983 to 9 percent in 1985). This result on the budget front was due exclusively to the cut in public expenditure.

For the current account deficit:

- The dirham was devalued by 23 percent during 1983-85 with respect to the French franc. The nominal devaluation seems to have been a success, since the devaluation in real terms amounted to 13 percent during this period;
- Trade liberalization; (tariff duties were reduced to a maximum of 45 percent; the special import tax was decreased from 15 percent to 5 percent; restricted import goods requiring special licenses were restrained to 15 percent of total import goods);
- In July 1984, foreign exchange controls were relaxed; foreign investors' profits could be freely transferred without prior authorization by the *Office des Changes*;
- Removal of price controls; (by the end of 1985, 38 commodities at the wholesale level — mainly foodstuffs — remained controlled);
- It is debatable as to whether the devaluation had an adverse effect on the government budget (including public enterprises). The Moroccan public sector was probably a net importer of tradables. In 1985, exports of phosphate rocks and derivatives amounted to DH10 000 million; state-imported cereals to about DH2 000 million and the debt service (treated as an importable good) after debt relief to DH13 000 million. Thus, the Moroccan public sector was a net importer of tradable goods amounting to approximately DH5 000 million in 1985; therefore, devaluation must have had an adverse impact on the public budget.
- The current account deficit, more than 12 percent of GNP in 1981/82, was reduced to 7 percent of GNP during 1983-85 after debt relief, and to 10 percent in 1984/85 before debt relief. Exports of goods and non-factor services rose from 22 percent of GNP in 1983 to 27 percent and imports from 32 percent to 36 percent.

Structural changes in specific sectors:

- *Educational sector*: preparation of a reform to expand primary schools for girls in rural areas; less emphasis on secondary schools and university level;
- *Agricultural sector*: reduction of subsidies for fertilizers; increase in

the price of using irrigation; admission of private enterprises to the distribution of agricultural products;

- *Financial sector*: a certain liberalization of interest rates; subscription of treasury bills and bonds to the general public;
- *Privatization*: there is no longer any reference to the "Moroccanization" of capital and management, as in the investment code of 1973; the agricultural export monopoly (*Office de Commercialisation des Exportations*) was gradually dismantled; the telephone system became an autonomous corporation; and public transport in Casablanca was opened to private enterprises.

The austerity programme did not create a recession. Growth rates of GDP were more than 2 percent in 1983/84 and rose to more than 4 percent in 1985 (which was an exceptional agricultural year). We have no data for unemployment. However, real wages, declined by 9 percent with respect to the minimum wage rate, from August 1983 to January 1985

Regarding the structural adjustment measures for the agricultural sector, as already mentioned, there was a gradual elimination of input subsidies (fertilizers, use of water) for irrigation agriculture together with admission of private enterprises to the marketing of agricultural products. Furthermore, the World Bank (1986b), within its programme of agricultural-sector-adjustment loans, stressed the need to reduce the excessive protection granted to irrigated farming and to encourage cereal production in the traditional rain-fed sector. A way of achieving such a switch in the internal agricultural terms-of-trade, was to grant the traditional sector at least the same protection as the average protection of the Moroccan economy, or an even higher protection during the transition period; this was because the traditional agricultural sector had been neglected in Moroccan development strategy since the "Operation Plough" programme of the late 1950s.

The particular policy dilemma, however, is twofold. On the one hand, a development strategy for non-irrigated agriculture would have unfavourable budgetary consequences and would, thus, be in conflict with the macro-economic stabilization plan. The budgetary economies from reduction could be used for input subsidies for non-irrigated agriculture. Furthermore, the rise in domestic producer prices for cereals (above the world

market price) could imply higher consumer subsidies with the consequence of increased government expenditure.¹² On the other hand, a coalition between large landowners and poor urban workers would exert political pressure against the new agricultural policy, the first group being interested in maintaining the protection of irrigation agriculture and the second motivated by low food prices. Whatever well-designed agricultural adjustment plan is proposed, however, political pressure from the urban population will set the limits.

¹² However, a programme of food stamps could be envisaged to target the real poor in Morocco.

REFERENCES

- Benazzou, G.** 1986. *Panorama économique du Maroc 1969/1985*, p.: 20. Rabat.
- Cleaver, K.M.** 1982. *The agricultural development experience of Algeria, Morocco, and Tunisia: a comparison of strategies for growth*, World Bank, Washington, D.C.
- Due, J.M.** 1986. Agricultural policy in tropical Africa: is a turnaround possible?, *Agric. Econ.*, 1, p.: 19-34.
- El Khyari, T.** 1986. L'Administration et le développement de l'Agriculture du Maroc indépendant, *L'Édification d'un Etat Moderne, Le Maroc de Hassan II*, p.: 287-305. Paris.
- FAO.** 1987. *World Tables*, Rome.
- Griffin, K.** 1976. *Land concentration and rural poverty*, New York.
- IMF.** (various years). *Directory of trade statistics yearbook*, Washington, D.C.
- Pomfret, R.** 1987. Morocco's international economic relations, *The Political Economy of Morocco*, p.: 173-187. New York.
- Pomfret, R.** 1986. *Mediterranean policy of the European Community*, London.
- Swearingen, W.D.** 1987. Morocco's agricultural crisis, *The Political Economy of Morocco*, p.: 159-172. New York.
- Van Wersch, H.J.** 1968. Rural development in Morocco: operation labour, *Economic Development and Cultural Change*, 17, p.: 33-49.
- World Bank.** 1985. *Kingdom of Morocco, agricultural sector adjustment loan, technical support, volume covering adjustment programme and policies* (28 May), Washington, D.C.
- World Bank.** 1986a. *Royaume du Maroc, étude des prix et des incitations agricoles* (15 May), Washington, D.C.
- World Bank.** 1986b. *World development report 1986*, Washington, D.C.
- World Bank.** 1987a. *Morocco, CEM: issues for a medium-term structural adjustment programme* (30 January), Washington, D.C.
- World Bank.** 1987b. *World development report 1987*, Washington, D.C.
- World Bank.** *World debt tables*, Washington, D.C.

8. Conclusions and policy recommendations

African farmers suffer from the consequences of past errors, both in sector-specific and macro-economic policies. Measures that do not contribute to eliminating the persistent causes of these errors should be avoided. It would not be prudent to oppose any effort towards stabilization on the pretext that agriculture might suffer from stabilization programmes. Similarly, policies aimed at suppressing excess demand should be supported and so should structural adjustment programmes aimed at developing the right incentives, not only in agriculture, but also in other sectors, since farmers benefit from the overall prosperity of their country.

Stabilization plans imply a transfer of resources, since there is a situation of over-spending that cannot be sustained. The authorities have to make choices and take into account political forces and resistance. The problem is, how to avoid transferring a burden on to those who are politically less powerful (particularly farmers). Usually, agriculture has either been "sacrificed" already, or, there is a risk that it will be during the implementation of the programme. Therefore, it is particularly important to introduce provisions into programmes which avoid increasing the "burden" on the agricultural sector.

With respect to structural adjustment, a policy supporting the development of incentives (with possible financial compensations to bear adjustment costs) is preferable to direct financial support of agricultural projects that reinforce the bureaucracy and politicization of decisions. Financing programmes should not reinforce parastatals, the costs to the economy of which are now well known.

As regards marketing boards, two types of solutions could be considered:

- Assigning existing marketing boards to follow strict rules instead of

discretionary management. As an example of possible rules, the proposal made by Bauer & Yamey (1964), could be retained, according to which the price paid to farmers would be a sliding average of past world prices (adjusted for transportation and various local costs).¹ Such a rule would guarantee, for instance, that the marketing board would not divert huge sums of money from agriculture to other sectors.

- Introducing competition between different stabilization schemes. Farmers should have the choice between present marketing boards, self-insurance and, possibly, other private or public (national or international) schemes.

The privatization of existing marketing boards might also be considered: one possibility would be to transform them into mutual funds managed by farmers. As regards the possibility of developing international stabilization boards, it must be remembered that international specialized organizations may have less inclination to politicize decisions.

Policy recommendations can generally be divided into problem-specific and country-specific categories. The former apply more or less to several, if not all, countries, while the latter apply only to a given country.

PROBLEM-SPECIFIC RECOMMENDATIONS

There are three types of recommendations: those concerning exchange-rate policy, producer price policy and long-term agricultural development policy.

Substitutes for exchange-rate adjustments

In all the countries studied, a real devaluation would be necessary in order to switch production from non-tradable to tradable goods (in the case of tradable agricultural products, to exportable cash crops and importable food crops) and to divert expenditure from tradables (e.g. rice) to non-tradables (e.g. millet). Under certain conditions (see Appendix A), a nominal devaluation can lead to a real devaluation. However, certain countries cannot make

¹ Bauer, P. & Yamey, B. 1964. Organized commodity stabilization with voluntary participation, *Oxford economic paper*, p.: 105-113, March 1964.

use of the exchange rate instrument. Côte d'Ivoire and Senegal belong to the French Franc Zone (*Comité Monétaire de la Zone Franc*), and the monetary future of Liberia's present currency standard is still uncertain.² One solution for the above countries would be to opt out of their present exchange rate standard and to adopt a proper domestic monetary status. However, the common counter-argument for that solution is often seen in terms of long-term monetary instability. A valid alternative to the policy tool of devaluation would be commercial policy, i.e. to tax imports and to subsidize exports. Our policy recommendation consists precisely in that alternative.

However, such a policy only makes sense when applied to the proper field of agricultural tradables: if all food imports are taxed at the same rate, if all cash crops are subsidized at the same rate and if the tax rate is equal to the subsidy rate. Moreover, the administrative cost of such a solution cannot be ignored.

Relative prices

Generally, all countries concerned have producer prices of food products which are higher than consumer prices which, in turn, are higher than international prices. To the extent that the spread between consumer prices and international prices reflects the need for devaluation, the level of consumer prices is justified.

However, in reality, in most cases devaluation would need to be greater, implying that consumer prices of imported food have to be adjusted to domestic producer prices of food-import substitutes. Since the rise in consumer prices (either through devaluation techniques or by commercial policy) may be excluded for internal political considerations, producer prices should not be lowered by cutting agricultural input and output subsidies unduly, as the IMF and the World Bank often propose for purely budgetary reasons. What has to be known from the outset is the adequate

² African members of the French Franc Zone: Benin, Burkina Faso, Cameroon, Central African Republic, Chad, Comoros, Congo, Equatorial Guinea, Gabon, Côte d'Ivoire, Mali, the Niger, Senegal and Togo.

change in the real exchange rate (defined as the relative price between tradables and non-tradables). Thus, for instance, in the case of Côte d'Ivoire or Senegal, the ideal devaluation rate may even be around 50 percent or 100 percent. For the moment, we do not know the "fundamental" equilibrium exchange rate for these countries. A complete cut of input and output subsidies is only justified in the hypothetical case of a "full" real devaluation. The "ideal" case is a devaluation (toward the fundamental equilibrium exchange rate) and an adjustment of consumer prices to domestic producer prices. Furthermore, such a technique would allow a rise in the domestic producer price of agricultural export goods.

Floating rates have also to be considered positively. People with a fair knowledge of the exchange market in most countries know that floating rates may avoid the worst evils of fixed rates, which usually become a matter of national pride and induce exchange and price controls, etc.

Even if exchange rate regimes and policies are crucial for agriculture, it is not possible to recommend one solution only. For instance, flexible rates would be advisable for some countries (e.g. Zambia and Liberia), but again the monetary discipline arising from the mechanism of the Franc Zone may also have to be defended: a change in exchange rates on the pretext of an overvaluation of the currency might not be beneficial in the long run, since it could result in a more lax monetary policy.

Food self-sufficiency

Any assessment of the desirability of food self-sufficiency (see Appendix B) has to start with its adequate domestic "shadow" producer price. There would be no long-term efficiency loss if the domestic producer price corresponded roughly to the international price (even though the latter is mostly distorted in the world market by the agricultural policies of developed countries). Here again, a knowledge of the proper devaluation for the whole economy is indispensable in order to obtain the "shadow" price.

Another intractable policy issue concerns capital-intensive irrigated agriculture, since in countries like Côte d'Ivoire, Senegal and Morocco, the goal of food self-sufficiency is linked to the further extension of costly large-scale water storage projects. As the total cost of a dam is difficult to

calculate, and since it should be "internalized" as a private cost among agricultural inputs, self-sufficiency could lead to a considerable waste of resources, even if the country concerned has adapted its "true" equilibrium exchange rate. We consider that some international organizations should promote research projects for the desirability of food self-sufficiency, either with or without irrigation techniques.

COUNTRY-SPECIFIC RECOMMENDATIONS

Since each country study already contains a list of (implicit or explicit) policy recommendations, we propose to list for each country the policy recommendation which we consider to be the most important and critical for its better future agricultural development. This recommendation is country-specific to the extent that it refers to a particular, unique situation not widely present in the other countries we have examined. As already mentioned, the problem-specific recommendations (which can be of even greater importance) are valid for nearly all the countries considered. We shall not, therefore, repeat them for each individual country.

Côte d'Ivoire

The problem of the exchange rate in relation to agricultural prices is a central one in Côte d'Ivoire. If, for perfectly understandable reasons, devaluation is excluded, we must look for substitutes to restore more desirable relative prices between agricultural products and industrial products, and between various agricultural products. Industrial commodities benefit from a relative effective protection in comparison with agricultural products. If there was no overvaluation of the currency, it would be preferable to decrease the relative protection of industrial products rather than increasing the relative protection of agriculture. On the other hand, a decrease in the relative protection of rice in comparison with coffee and cocoa might be advisable, although the present policy is intended to be instrumental in achieving a better regional balance of activities. Moreover, it is somewhat hazardous to attempt to predict long-term relative prices.

However, any policy adopted as a substitute to currency devaluation, apart from its administrative cost, implies a budgetary cost that might be incom-

patible with the present situation of fiscal tightness. This would be so whether industry is less protected or rice production is decreased or the production of coffee and cocoa is subsidized. The budgetary cost would be mainly a short-term cost, however, as the possible expansion of these activities by achieving a higher return would make it possible for the state to obtain larger receipts in the future. In such a case, the main problem would be one of transitory financing, which might be more or less met by conditional external transfers.

Structural reforms are also crucial for the future development of agriculture in Côte d'Ivoire, and we must not forget the potential diversification of production and the existence of well-educated and strongly motivated farmers. A structural policy package ought to include a liberalization of markets (e.g. the suppression of the stabilization board, the CSSPPA and other parastatals, the full privatization of mills), and a better definition of land property rights.

Senegal

The regular collective debt default by Senegalese peasants was their "rational" answer to increasing government intervention in the groundnut sector. The World Bank has successfully contributed to the liberalization of the groundnut economy. The cooperative movement is a specific feature of "Senegalese socialism". Its economic rationale was derived from the model of the "improvident farmer" who was formerly subjected to "exploitation" by traders who lent money at usurious interest rates. The centralized cooperatives have solved the "individual" debt problem, but they have created a collective debt problem. This latter problem was not settled with the creation of smaller village-based cooperatives in 1983, when collective debt solidarity was reduced from several villages to a single one. We contend whether there is still the possibility of (or the incentive for) collective debt default, even though attenuated by village-level cooperatives, and propose a return to an individual obligation of the debt service. Exploitation by traders is a question of their "monopoly power". Consequently, ways have to be found for increasing competition among traders. Collective debt liabilities create the phenomenon of "moral hazard" which, by definition,

entails less nuisance for individual debtors, but which, on the other hand, enhances disruptive forces for the entire economy.

Liberia

The future of the Liberian economy depends on the successful implementation of a new domestic currency. Currency reform would affect the traditional non-monetary agricultural sector, since people in this sector usually plant food crops and cash crops simultaneously. A return to the dollar standard seems to be excluded, even though a fixed peg to the dollar, to a European currency or to a currency basket, is conceivable in the long run. The growth pole, which was traditionally the modern agricultural concession sector, has been fading gradually since the prerequisites of the former "open door" policy (political stability, absence of any present and future exchange controls, dollar standard) are no longer guaranteed. Since any monetary reform bears the risk of a complete failure (the result in monetary affairs of this type is "all or nothing"), a careful project has to be elaborated, preferably by an independent group of experts, since the present links to the IMF are "emotionally overloaded". The best solution would be a flexible exchange rate and a domestic currency, fully backed by international reserves, which could be acquired through some international credit arrangement. However, the important arrears of Liberia, in particular with respect to the IMF and the instability (and non-credibility) of the present political regime, prevent any first-best monetary solution.

Zambia

Zambia is a typical example of a country where the economy in general, and agriculture in particular, have been damaged by its exchange rate policy. In fact, Zambia seems to be trapped into a vicious macro-economic circle: huge subsidies on maize consumption contribute to the budget deficit and, therefore, to money creation and inflation. The lag in the adjustment of the exchange rate and the interest rate creates distortions and induces various controls which are destructive to the economy. The rational policy would be to remove consumption subsidies. This would, however, appear to be politically difficult.

At present, the main obstacle to agricultural development in Zambia, which, incidentally, has immense potential, is the exchange rate. We would recommend, in this specific case, the adoption of a purely floating rate, which would avoid costly rationing of foreign exchange.

The solution to agricultural problems also depends on structural reforms, such as privatization of the marketing and processing systems. It would also be rational to abandon uniform pricing for all areas of agricultural production.

Morocco

Even though there are some positive signs of a rapid solution of the western Saharan conflict, which would improve Morocco's macro-economic performance in terms of a considerably lower budget deficit, there remains a fundamental structural agricultural problem whose solution requires a painful structural adjustment. Over the next ten years, Morocco's export-oriented irrigation sector is doomed to shrink, since an enlarged EEC will become practically self-sufficient in Mediterranean agricultural products. To shift the production pattern from fruit and vegetables into cereals would constitute a solution, since the capital-intensive production cost of cereals would remain higher than the production cost in the rain-fed sector. Our policy recommendation is the immediate stop to any further irrigation projects, as well as the suspension of those under construction. The savings realized could be used for the development of the traditional rain-fed sector. This "ivory-tower" advice does not take into consideration, however, the potential extreme opposition to such a proposal, since the 7 500 large landowners form the basis of the present political regime.

We would like to make a general remark at the end of our conclusions for Africa and, in particular, for sub-Saharan Africa: the agricultural sector is the centrepiece of the overall macro-economic performance of the region. In the medium term, the overall economies of these countries will not prosper unless agriculture prospers. Agriculture will become self-sufficient only when the whole economy of this region achieves a fundamental equilibrium. In the long run, therefore, agricultural and macro-economic performances are necessarily interdependent.

REFERENCE

- Bauer, P. & Yamey, B.** 1964. Organized commodity stabilization with voluntary participation, *Oxford Econ. Paper*, p.: 105-113. March.

Appendix A

Substitutes for exchange rate adjustments

For developing countries, (external) terms of trade are generally given exogenously, to the extent that their share of export commodities on the world market is rather small. Consequently, their relevant real exchange rate is constituted by the relative price of tradable to non-tradable goods. One possible way of modifying this real exchange rate is a change in the nominal exchange rate.

The following formulation of the terms of trade and of the real exchange rate makes the above proposition more understandable. The real exchange rate interpreted as terms of trade, can be written as:

$$T = \frac{P_m}{P_x} = \frac{1}{TOT} = \frac{P^* m E}{P^* x E} = \frac{P_m}{P_x} \quad (1)$$

where P_m = domestic currency price of imported goods

P_x = domestic currency price of exported goods

$P^* m$ = foreign currency price of imported goods

$P^* x$ = foreign currency price of exported goods

E = nominal exchange rate

TOT = terms-of-trade

T = real exchange rate interpreted as the inverse of the terms of trade

Any change in the nominal exchange rate leaves the terms of trade unchanged. The second and only relevant definition of the real exchange rate is:

$$\begin{aligned}
 e &= \frac{PT}{PN} = \frac{P^* TE}{PN} \\
 &= \frac{\alpha Px + (1 - \alpha) P_m}{PN} \\
 &= \frac{[\alpha P^* x + (1 - \alpha) P^* m] E}{PN} \quad (2)
 \end{aligned}$$

where PT = domestic currency price of tradable goods

PN = domestic currency price of non-tradable goods

PT = foreign currency price of tradable goods

α = relative weight of exportable goods among total tradable (exportable plus importable) goods

e = real exchange rate interpreted as the relative price of tradable to non-tradable goods

A real devaluation (rise in e) can be realized by a nominal devaluation (rise in E) provided that PN does not increase by the same proportion. The latter condition can be fulfilled by a restrictive (or non-expansionary) monetary policy. If, in the case of a stationary economy, the money supply rose by the same percentage as the nominal exchange rate, then all prices (those of tradable and non-tradable goods) would rise and the real exchange rate would remain unaffected.

The objective of a real devaluation is a switch of production from non-tradable goods to tradable goods (exportables and import substitutes) and a switch of expenditures from tradables to non-tradables. Both substitution effects would improve the trade balance. However, real devaluation merely represents a necessary and a sufficient condition for the improvement of the trade balance. Another condition must be fulfilled, which concerns wage behaviour. An increase in wages similar to an increase in the nominal exchange rate causes a negative production effect. If wages rise only in the tradable sector, the production of tradable goods will be reduced. If they

rise in both sectors, an overall unemployment effect will take place.

Since the countries of the French Franc Zone (and Liberia) are not in favour of the possibility of changing their parity with respect to the French franc (or to the US dollar in the case of Liberia), an alternative policy measure could be applied: commercial policy. A tax on imports and a subsidy on exports could be equivalent to a nominal devaluation:

$$T = \frac{P_m}{P_x} = \frac{1}{TOT} = \frac{P^* m E (1+t)}{P^* x E (1+s)} \quad (1a)$$

$$e = \frac{PT}{PN} = \frac{(1-\alpha) P^* m E (1+t) + \alpha P^* x E (1+s)}{PN} \quad (2a)$$

where E = fixed nominal exchange rate

t = *ad valorem* tax rate on imports

s = *ad valorem* subsidy rate on exports

As a matter of course, the equivalence with a nominal devaluation is only guaranteed if the tax rate and the subsidy rate are the same, and if all imports and exports are respectively taxed and subsidized.

As is well known, a real devaluation is a necessary but not a sufficient condition for eliminating a trade balance deficit. A trade balance deficit corresponds to the excess of absorption over domestic production. In most cases, a real devaluation will only marginally affect absorption. Consequently, a second instrument policy has also to be used for reducing absorption. Since, in many cases, the evolution of the trade balance deficit is highly correlated with that of the budget deficit, the latter has to be reduced. If the main effort is concentrated on reducing government expenditure instead of on raising taxes, reduction of government expenditure will have an additional impact on the real exchange rate.¹ To the extent that the

¹ Devarajan, S., & de Melo, J. Adjustment with a fixed exchange rate: Cameroon, Côte d'Ivoire and Senegal, *World Bank Economic Review*, May 1987, pp:447-487. Washington, D.C.

predominant part of government expenditure is oriented toward non-tradable goods, its reduction will decrease the price of non-tradable goods. Consequently, this specific type of expenditure-reducing policy also involves a real devaluation.

Appendix B

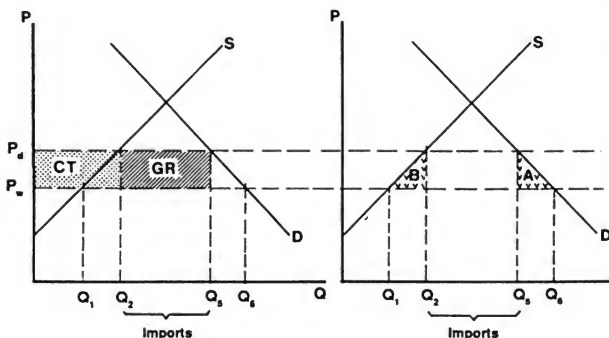
Rice self-sufficiency in West Africa

Most LDCs, and practically all developing countries in Africa, have one common goal in agriculture, food self-sufficiency. At first sight, they cannot be blamed for this, because such a policy was first pursued by industrialized countries many decades ago. In the official long-term agricultural development strategy of African countries, it always figured as a long-term objective. However, in reality, as observed in Chapter 1, the ratio of food production to population has decreased constantly over the last 20 years. Consequently, food self-sufficiency became more and more a pious hope than an observable fact. As also explained in preceding chapters, the main reason for the agricultural deterioration was the priority given to the industrial sector in long-term development planning. Only recently, under the pressure of balance-of-payments problems, has food self-sufficiency been "re-discovered" as a powerful means of import substitution policy. Cash crops and food crops began to obtain similar priorities. An obvious example is that of rice production in West Africa. We have seen that Côte d'Ivoire, Senegal and Liberia are planning to devote more resources to encouraging rice production. In what follows, we shall describe the welfare implications of the policy of increasing food self-sufficiency. The argument is conducted in terms of geometrical analysis. It constitutes only a reminder of a well-known economic theory, which has evolved over the last decades.

Successively, we shall treat the case of:

- free trade compared to protection, according to which the domestic consumer and producer price is fixed above the world price (Figure A-1);
- government subsidies on agricultural inputs (Figure A-2);
- government subsidies on agricultural inputs and outputs (Figure A-3);
- complete self-sufficiency of rice, excluding any imports of rice (Figure A-4).

FIGURE A-1
Free trade versus protection

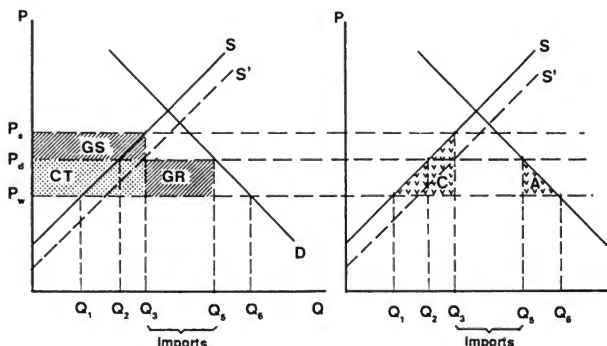


The domestic demand and supply conditions for rice are represented by schedules S and D , respectively. The world price of rice is P_w . In the absence of any protection for domestic production, total domestic supply will be Q_1 and total consumption Q_6 . The country imports the amount of $Q_6 - Q_1$.

A rise in the domestic price to P_d being above the world price (the nominal protection coefficient is P_d/P_w) increases domestic production to Q_2 and diminishes consumption to Q_5 . Consequently, imports are reduced to $Q_5 - Q_2$. The higher producer price is completely financed by consumers (CT). Additionally, imports $Q_5 - Q_2$ are taxed and the government obtains a revenue of GR. The total welfare loss of protection is the sum of the consumers' welfare loss (triangle A) and of the production efficiency loss (triangle B).

An additional government intervention for stipulating domestic production consists of subsidies for agricultural inputs. There is now a supplement-

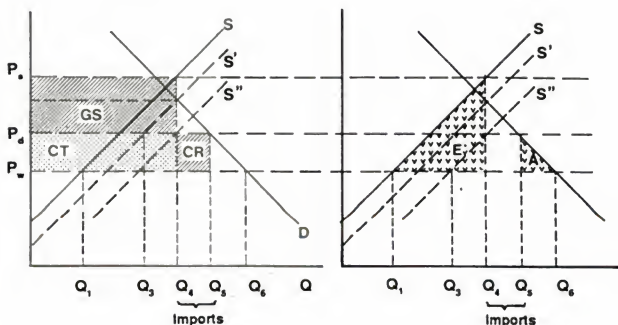
FIGURE A-2
Input subsidies



tary price difference between the domestic consumer price, which remains unchanged at the level P_d (as in Fig. A-1), and the domestic producer price P_s , which is subsidized via input subsidies by the amount $P_s P_d$ per output quantity. The supply schedule S reflects the social production cost and S' the private production cost. Domestic production increases from Q_2 to Q_3 , and imports fall from $Q_5 - Q_2$ to $Q_5 - Q_3$. Consequently, government revenue from import duties is reduced to GR . Government outlays for input subsidies are GS . Since the consumer price remains unchanged at P_d , consumption continues to be Q_5 with the corresponding consumers' welfare loss A . However, the producers' efficiency loss has risen from B to C .

A further type of subsidy is introduced which directly concerns agricultural output (represented by the vertical distance between S' and S''). Domestic production increases from Q_3 to Q_4 and, correspondingly, imports are reduced from $Q_5 - Q_3$ to $Q_5 - Q_4$. Government revenue from import duties

FIGURE A-3
Input and output subsidies

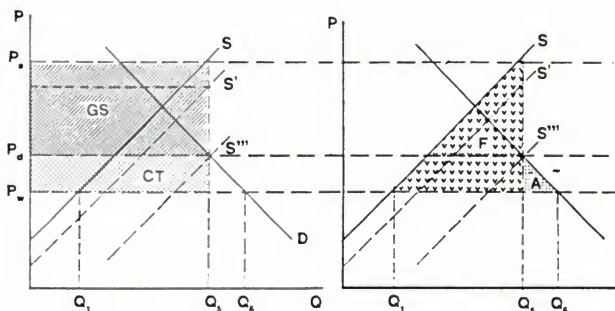


falls to GR and total government subsidies rise to GS. In terms of Figure A-3, there is now a nett transfer of resources to the agricultural sector provided by the government (GS-GR) and by consumers (CT). Consumers' welfare loss remains unchanged at A, while the producers' inefficiency loss increases from C to E.

If the authorities aim at full self-sufficiency with zero imports, they have to subsidize each agricultural output unit by the amount $S'-S''$. Consumption will be equal to domestic production (Q_5). Production inefficiency loss rises dramatically from E to F.

After these theoretical considerations, we have to indicate which policy type of self-sufficiency in rice had been pursued by the three West African countries studied in the main text. At the lower end ranks Liberia. The protection case of Figure A-1 may be applied to it (even though there are minor subsidies on agricultural inputs). Senegal subsidizes agricultural

FIGURE A-4
Complete self-sufficiency



inputs more heavily and Figure A-2 could be the relevant description. If we explicitly take into account the high capital cost of irrigation, supply schedule S' has to be shifted downwards, increasing the producers' inefficiency loss. Côte d'Ivoire may be represented by Figure A-3 because of its additional direct subsidies on agricultural output.¹

¹ Humphreys, C.P., & Rader, P.L. 1981 Rice policy in the Ivory Coast, *Rice in West Africa*, p. 15-60. Stanford

